

**Status Report on Technical Studies
for the
Storage and Conveyance Refinement Process**

DRAFT

**Delta Simulation Model Studies
of
Alternatives DEFT1 & DEFT2**

October 14, 1998



M e m o r a n d u m

Date : October 13, 1998

To : Mark Cowin, CALFED

F Chung

Francis Chung
Delta Modeling Section
Modeling Support Branch

From : Department of Water Resources

Subject: Continuation of Model Studies of CALFED Alternatives

Per your request, Delta alternatives DEFT1 and DEFT2 have been analyzed with DWR's Delta Simulation Model DWRDSM2, using DWRSIM study 689. Both alternatives used a 1995 level of demand and incorporated South Delta improvements without Clifton Court Forebay and Tracy Pumping Plant inter-tie. However, for analyzing alternative DEFT2 a maximum Hood diversion of 2000 cfs was used without any North Delta improvements. Specifically, this report includes:

1. A brief description of the Delta Alternative, the hydrology and operating assumptions used.
2. Comparison of flows, electrical conductivity, and minimum water levels at key locations of the Delta, between Alternative DEFT1 and DEFT2.
3. Delta modeling results in terms of Delta flows, Delta electrical conductivity, monthly average X2 locations, and water levels in the South Delta.

Deltawide model results will be posted on the Delta Modeling Section's WWW page, <http://wwwdelmod.water.ca.gov/CalFed>. If you have further questions, please call me at (916) 653-5601.

Attachment

cc: (w/o attachment)
Katherine Kelly
George Barnes

SURNAME
DWR 155 (Rev. 2/86)

F Chung 10-14-98

Introduction

Delta modeling studies for CalFed alternatives DEFT1 and DEFT2 were completed using DWRDSM2. DWRSIM study 689 was used for both alternatives. The assumptions that were used for this DWRSIM study are explained in the next section. Both alternatives had South Delta improvements without the Clifton Court Forebay and Tracy Pumping Plant inter-tie. Further, 1995 level of demand was used for both alternatives. Alternative Deft2 had a maximum Hood diversion of 2,000 cfs into Snodgrass Slough.

Comparison of flows, electrical conductivity, and minimum water level elevations in selected locations in the Delta between alternatives DEFT1 and DEFT2 are presented in this report. Results will be provided at the Delta Modeling Section web page at <http://wwwdelmod.water.ca.gov>.

CALFED Alternatives

Alternative DEFT1

Delta geometry very similar to CalFed alternative 1C. As in alternative 1C, fish and flow control structures were installed in South Delta, while Old River adjacent to Victoria Island was dredged to increase the conveyance. This increased conveyance helps to meet the demand created by the increased Banks Pumping capacity of 10,300 cfs. However unlike in alternative 1C, the inter-tie connecting the Clifton Court Forebay and the Tracy Pumping Plant was removed for this alternative. (see Figure 1)

DWRSIM study 689 was used to model this alternative. 1995 level of demand was used for this DWRSIM study.

Alternative DEFT2

Alternative DEFT2 used the same hydrology and geometry as in DEFT1 with the exception of 2,000 cfs of Sacramento water diverted from Hood to Snodgrass Slough. The 2,000 cfs facility had an alignment defined as in alternative 2B. However; unlike alternative 2B, expansion of North Fork of Mokelumne and flooding of McCormack-Williamson Tract were not modeled. (see Figure 2)

Figure 1
Alternative DEFT1

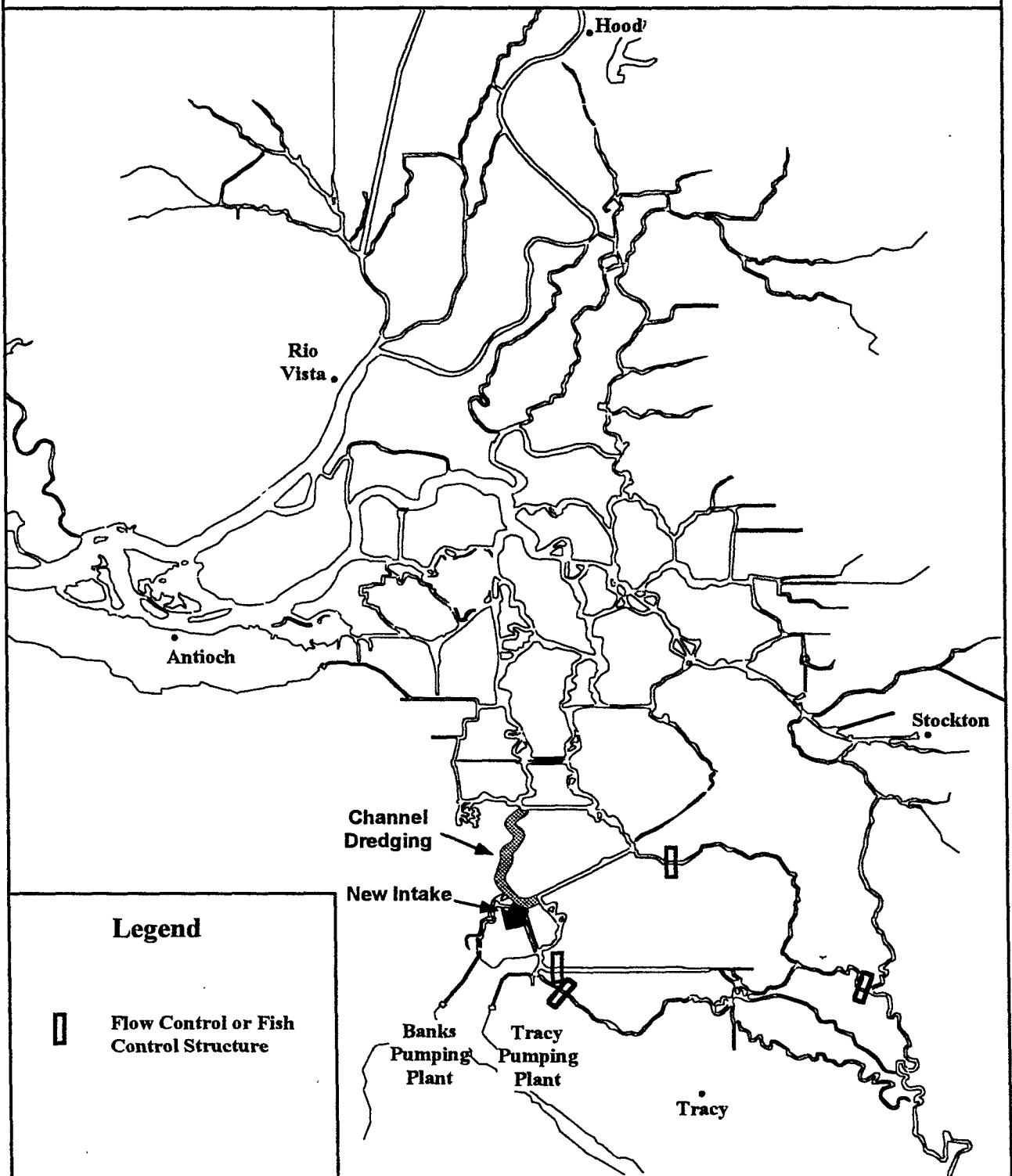
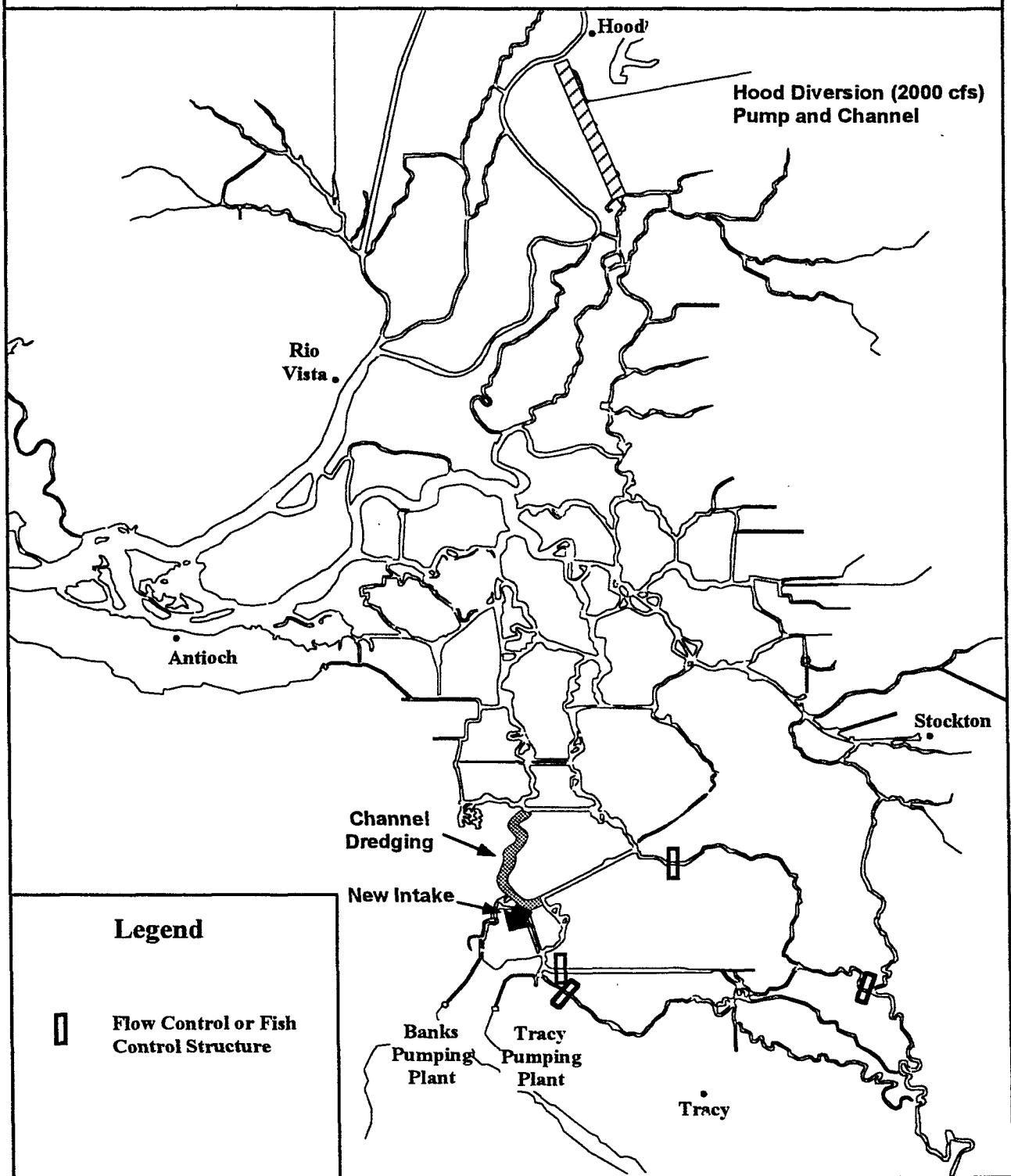


Figure 2
Alternative DEFT2



General Modeling Assumptions

Delta Boundary Conditions

The boundary of the Sacramento-San Joaquin Delta as modeled by DWRDSM2 consists of the Sacramento River at I Street, the San Joaquin River at Vernalis, and Carquinez Straight at Martinez.

Downstream Stage - The 19-year mean tide was used to generate the Delta tidal action contributing to the Delta hydrodynamics and water quality. This 25-hour sequence was repeated throughout the 16 year study period.

Delta Inflows and Exports - Delta inflows and exports were obtained from DWRSIM study 689. This study assumes a 1995 level of development. For this analysis, 16 years of hydrology (1976-1991) were used. Important Delta boundary flows are summarized in the Table 1-1 and Table 2-1 in Appendix A and Appendix B.

Delta Boundary Salinity - Salinity at downstream boundary at Martinez and at upstream locations of Sacramento River at I Street, Yolo Bypass inflow to Cache Slough, San Joaquin River at Vernalis, and East-side stream inflows had to be determined. The salinity at Martinez is calculated by an artificial neural network model developed by DWR. This model derives electrical conductivity at Martinez as a function of Delta outflow. Similarly, the electrical conductivity at Vernalis varied with the flow and flow source in the San Joaquin River. Fixed values of EC were assumed at Sacramento River, Yolo Bypass and the East-side streams.

Delta Facilities Operation

Clifton Court Forebay Intake Gates - Identical to Alternative 1C (see Table 1-2 and 2-2 of Appendix A and Appendix B).

Suisun Marsh Salinity Control Gates - Identical to Alternative 1C (see Table 1-2 and 2-2 of Appendix A and Appendix B).

South Delta Flow and Fish Control Structures - Identical Alternative 1C (see Table 1-2 and 2-2 of Appendix A and Appendix B).

Delta Cross Channel - Closed in October through June in all water year types. (see Table 1-2 and 2-2 of Appendix A and Appendix B).

Figure H1: Sacramento River at I Street

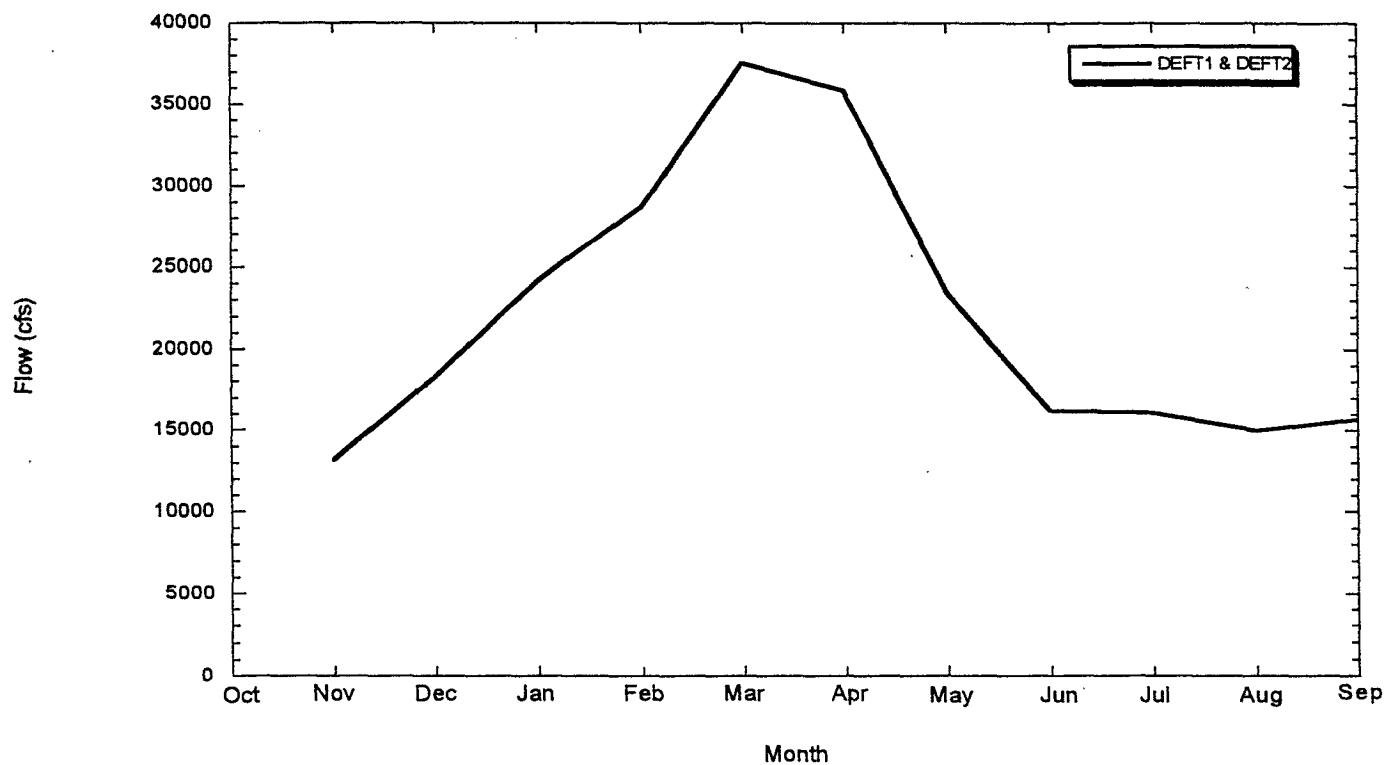


Figure H2: San Joaquin River at Vernalis

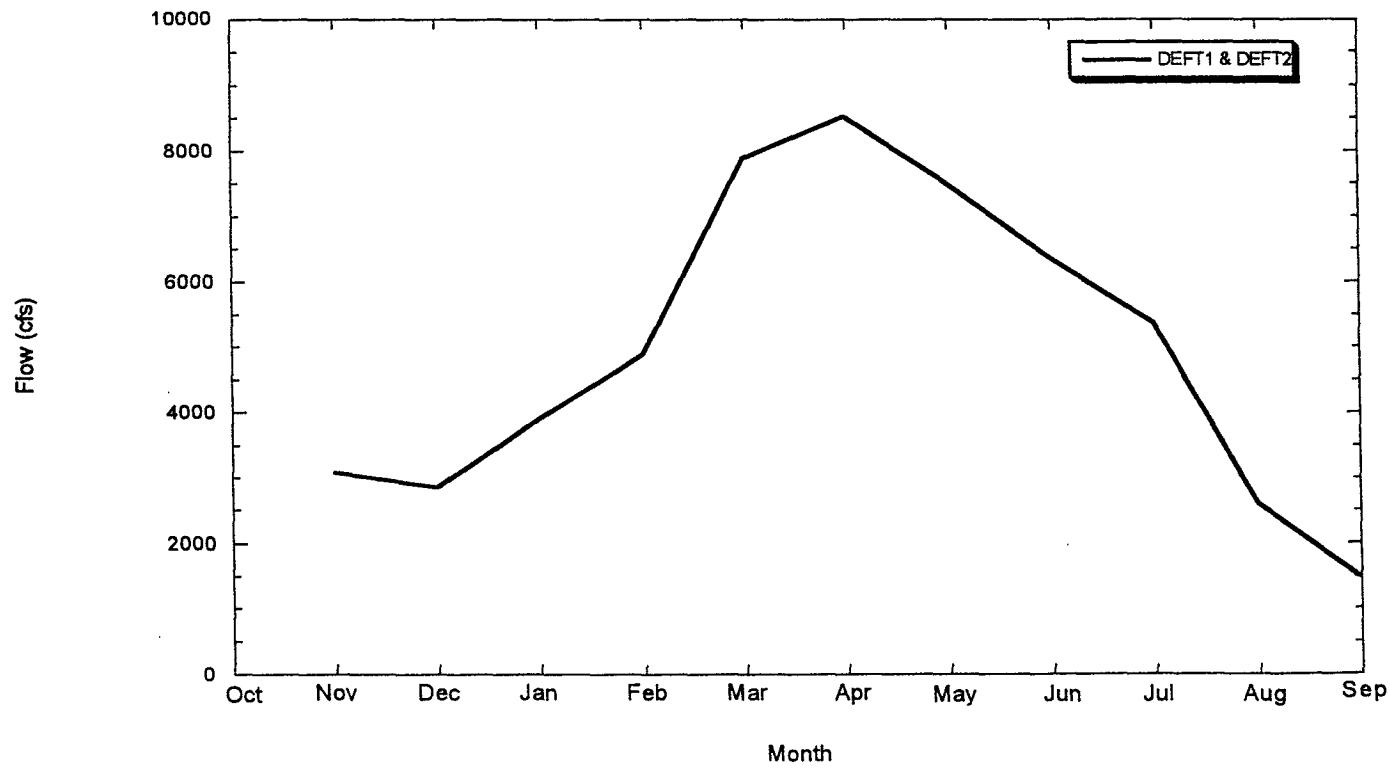


Figure H3: Total Exports (Banks + Tracy)

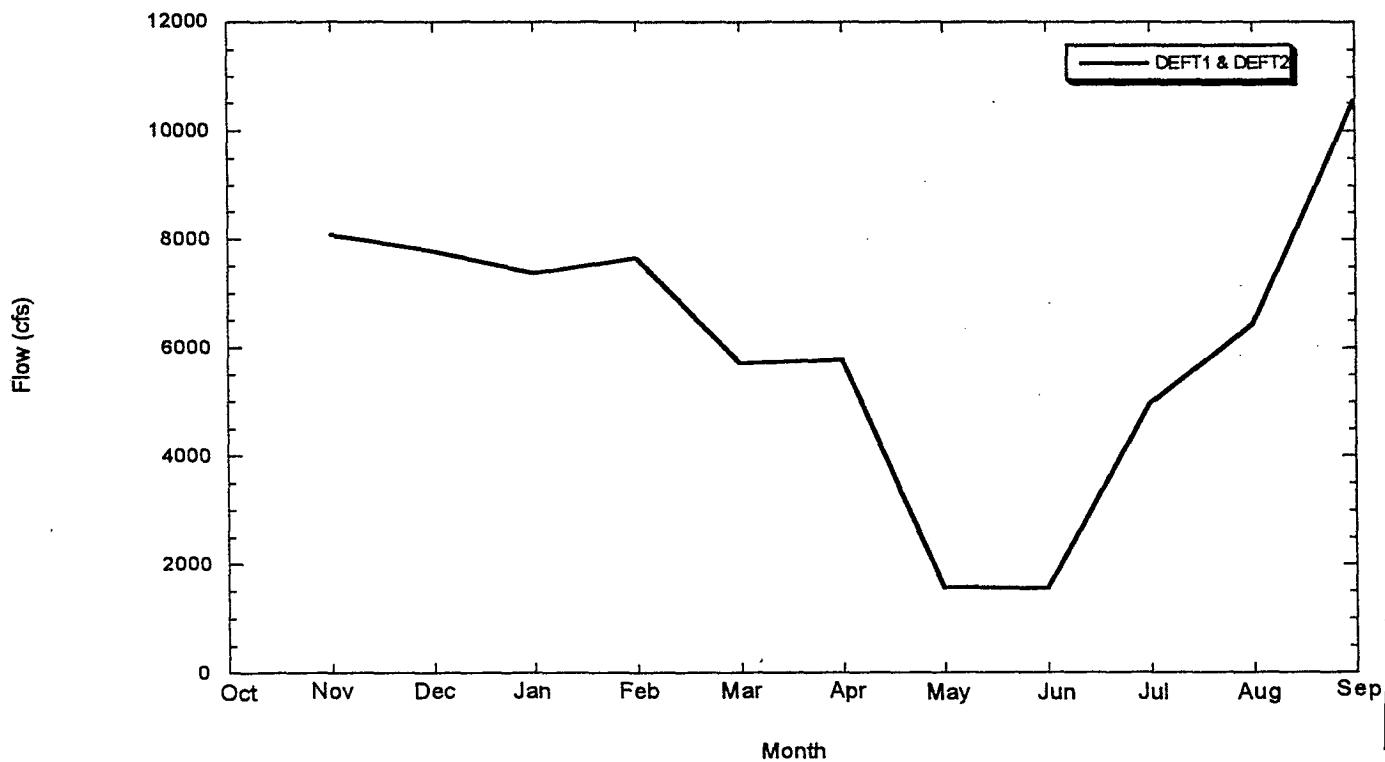
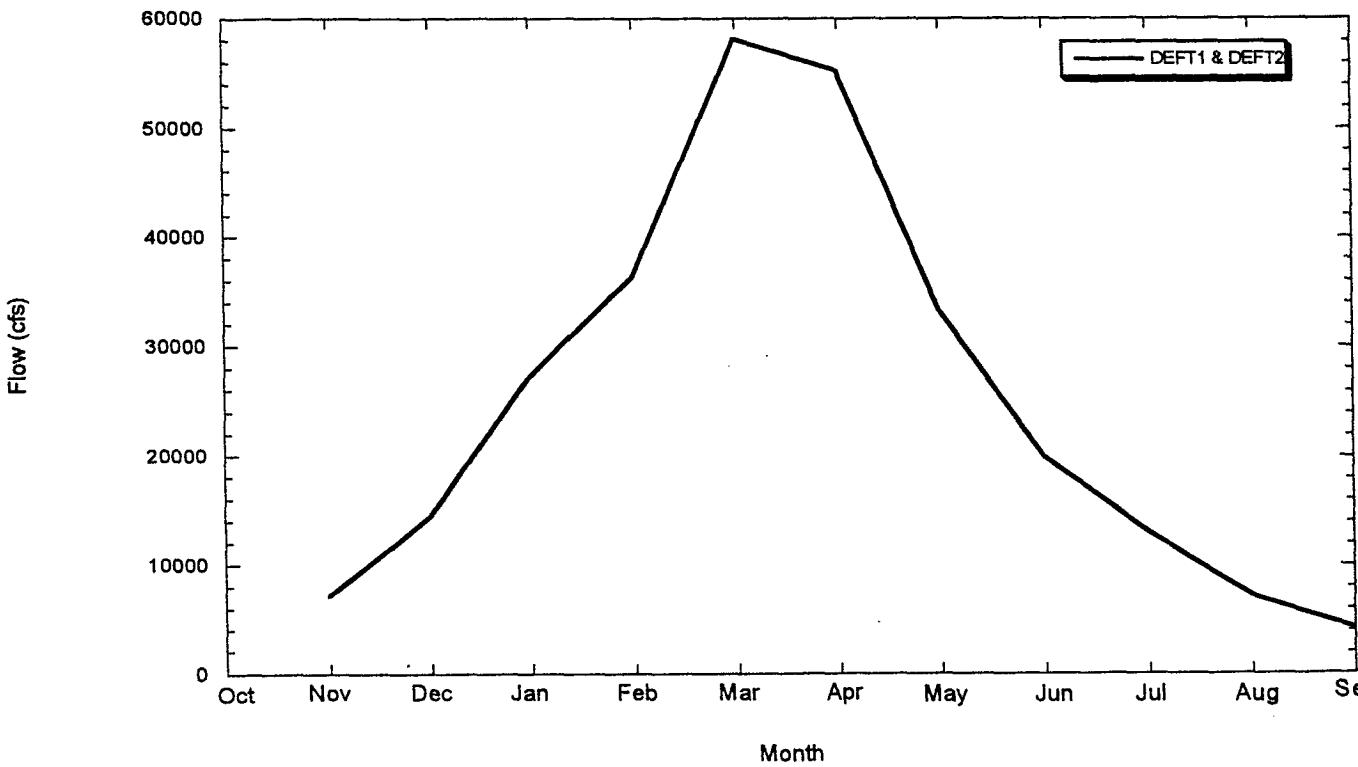


Figure H4: Net Delta Outflow



Highlights of Modeling Results

Figures H1, H2, H3 and H4 show the 16 year monthly average values of Sacramento flow, San Joaquin flow, total Exports (CVP + SWP), and Net Delta Outflow. In comparing to other CalFed alternatives very low pumping rates are observed in months of May and June.

Flow

Average monthly flows are listed for 31 locations in Table 1-3 and Table 2-3 in Appendix A and Appendix B. The 31 locations in the Delta are shown in Figures 1-2 and 2-2. Comparison of the monthly average flows (averaged over 16 years) in eight locations between alternative DEFT1 and alternative DEFT2 are presented in Figures F1 - F8.

Cross Delta flow - Cross Delta flow is generated by the sum of flows in the Georgiana Slough, Delta Cross Channel (DXC) and flow diverted into Snodgrass Slough from Hood. Alternative DEFT2 had a higher Cross Delta flow because of the 2,000 cfs Hood diversion. Between October through June, when Delta Cross Channel is closed the sum total of Georgiana Slough and DXC is slightly less in DEFT2 than in DEFT1 due to less Sacramento water downstream of Hood (2,000 cfs diverted from Hood). Because of this, for the period October through June the difference in flow for DEFT1 and DEFT2 is slightly less than 2,000 cfs. During the period of July-September when the Delta Cross Channel is open the difference of Cross Delta flow between the alternatives was lower.

Qwest - Higher cross delta flow in DEFT2 results in higher QWEST values (see Figure F2)

Rio Vista - Alternative DEFT2 had lower flows in Rio Vista than alternative DEFT1. This is because 2,000 cfs was diverted to Snodgrass Slough in alternative DEFT2 (see Figure F3).

Old River at Highway 4 - Alternative DEFT1 and DEFT2 had nearly identical flows (see Figure F4)

Mokelumne River at Andrus Island- Flow pattern very similar to Cross Delta flow. However the difference between the flows (in DEFT1 and DEFT2) is lower at Mokelumne River than Cross Delta flow. The reason for this is that part of the diverted water goes down South Fork in to Little Potato Slough (see Figure F5).

Little Potato Slough - Same as in Mokelumne River. The flow differences in alternative DEFT1 and DEFT2 in Little Potato Slough and Mokelumne River adds up to the Cross Delta flow difference (see Figures F1, F5 and F6).

Figure F1: Cross Delta Flow

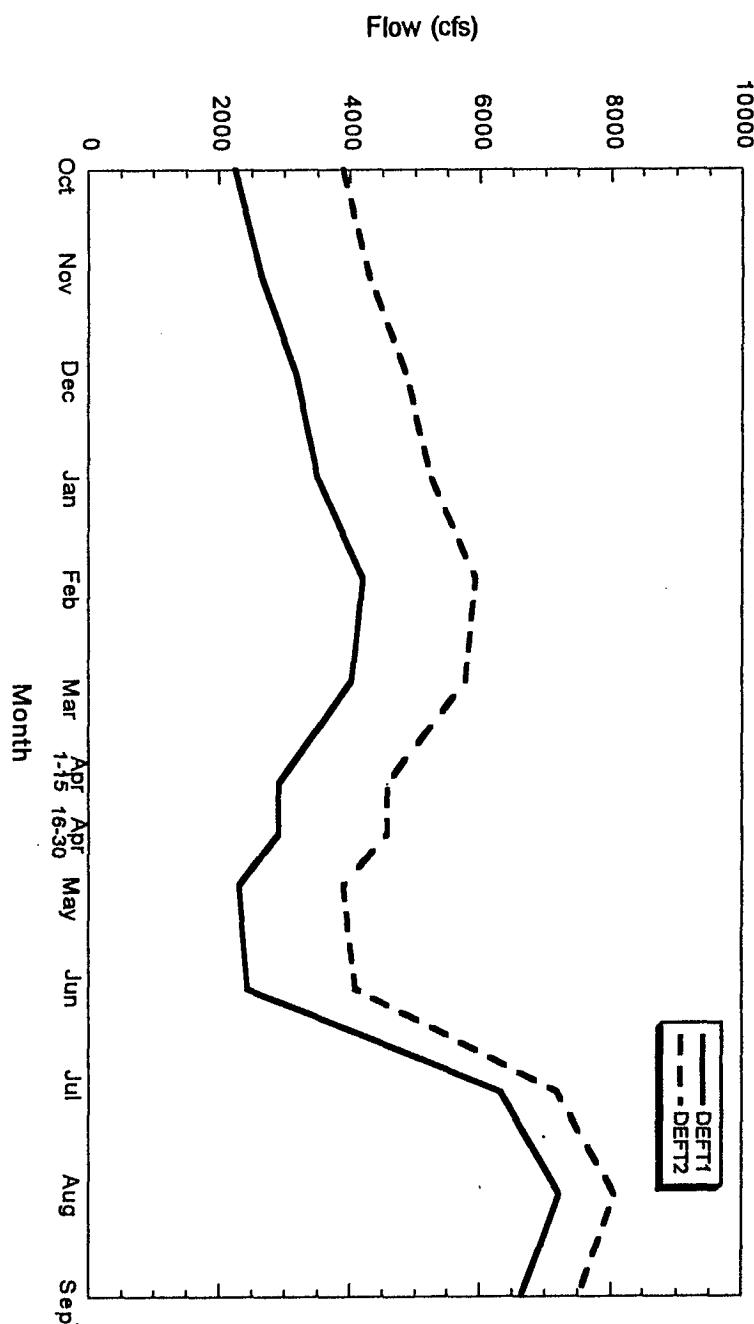


Figure F2: QWEST

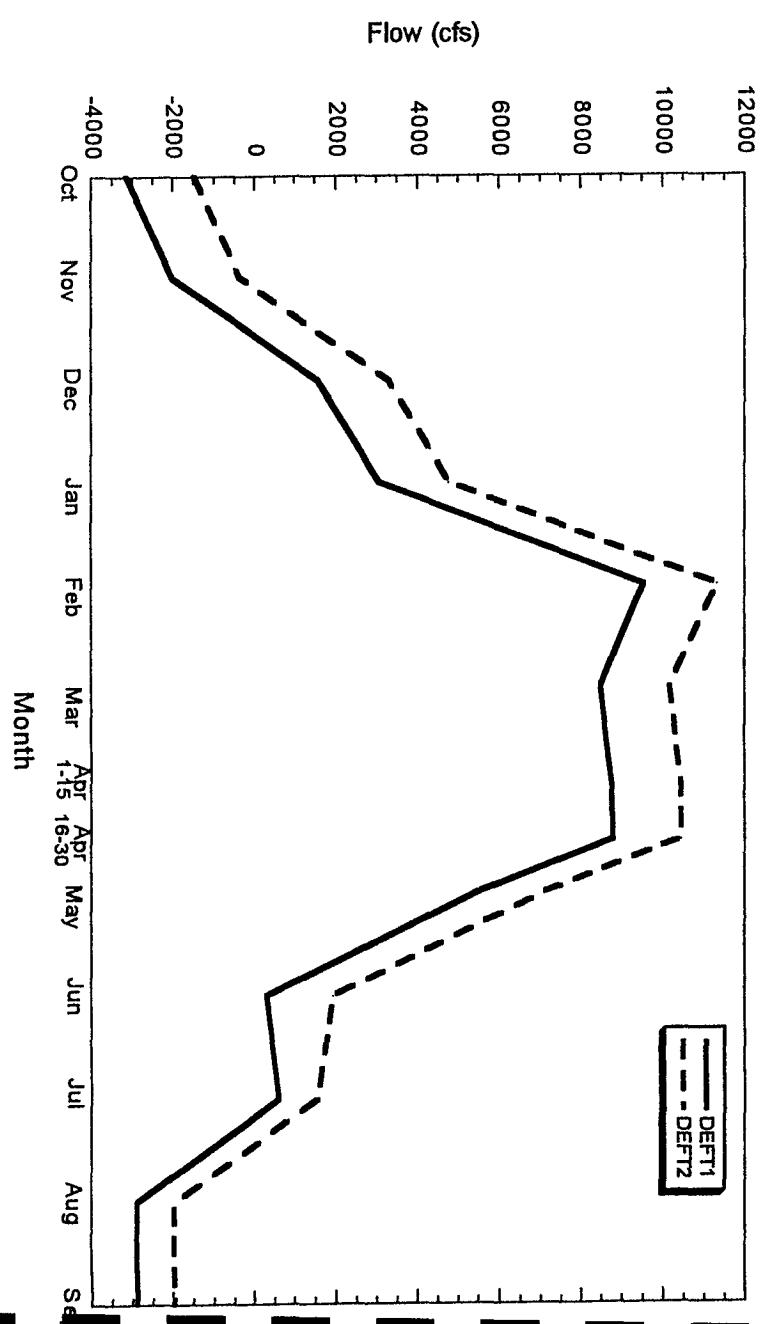


Figure F3: Sacramento River at Rio Vista

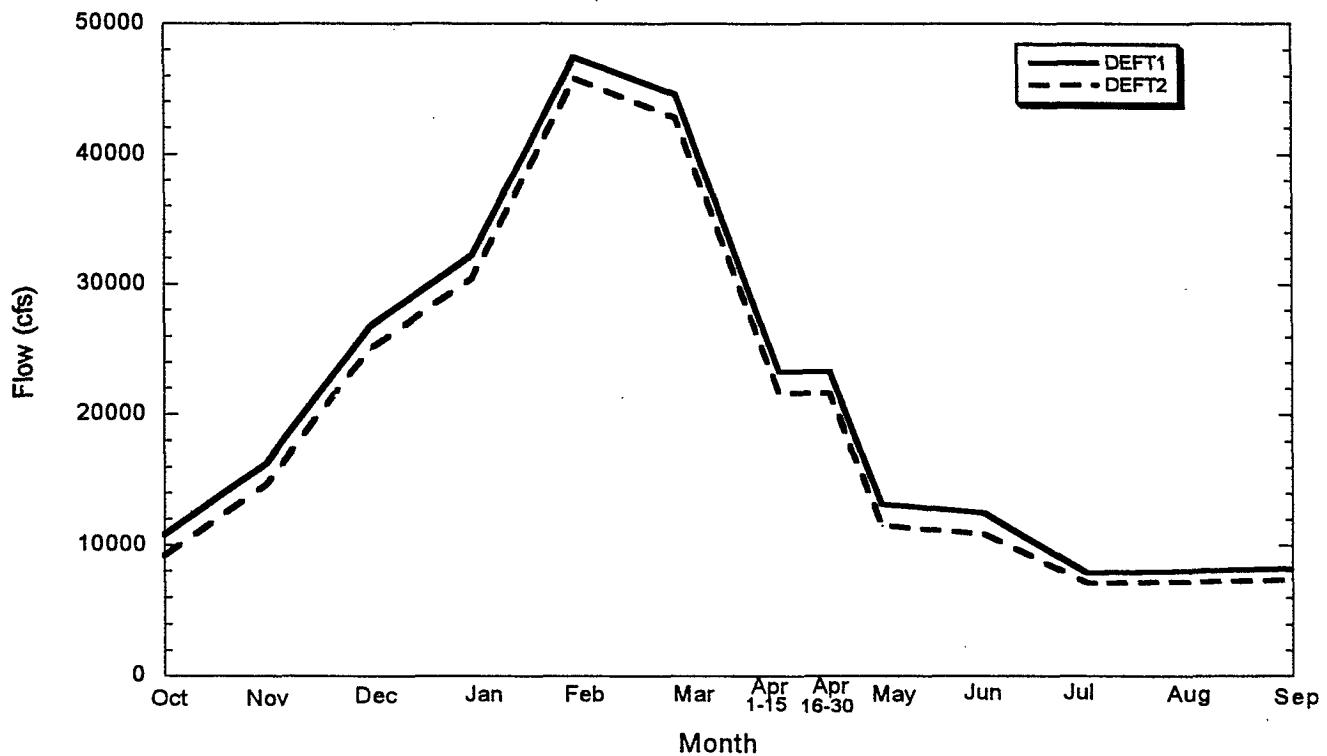


Figure F4: Old River at Highway 4

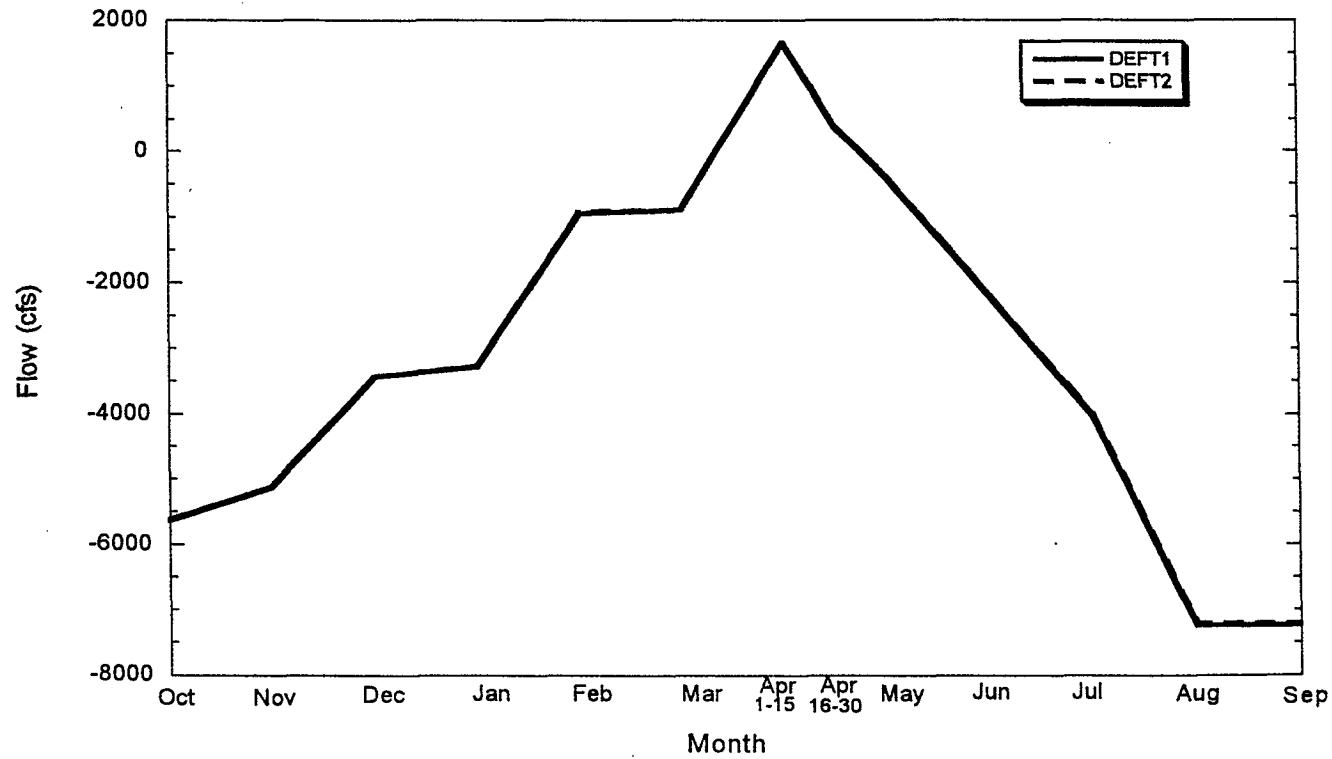


Figure F5: Mokelumne River at Andrus Island

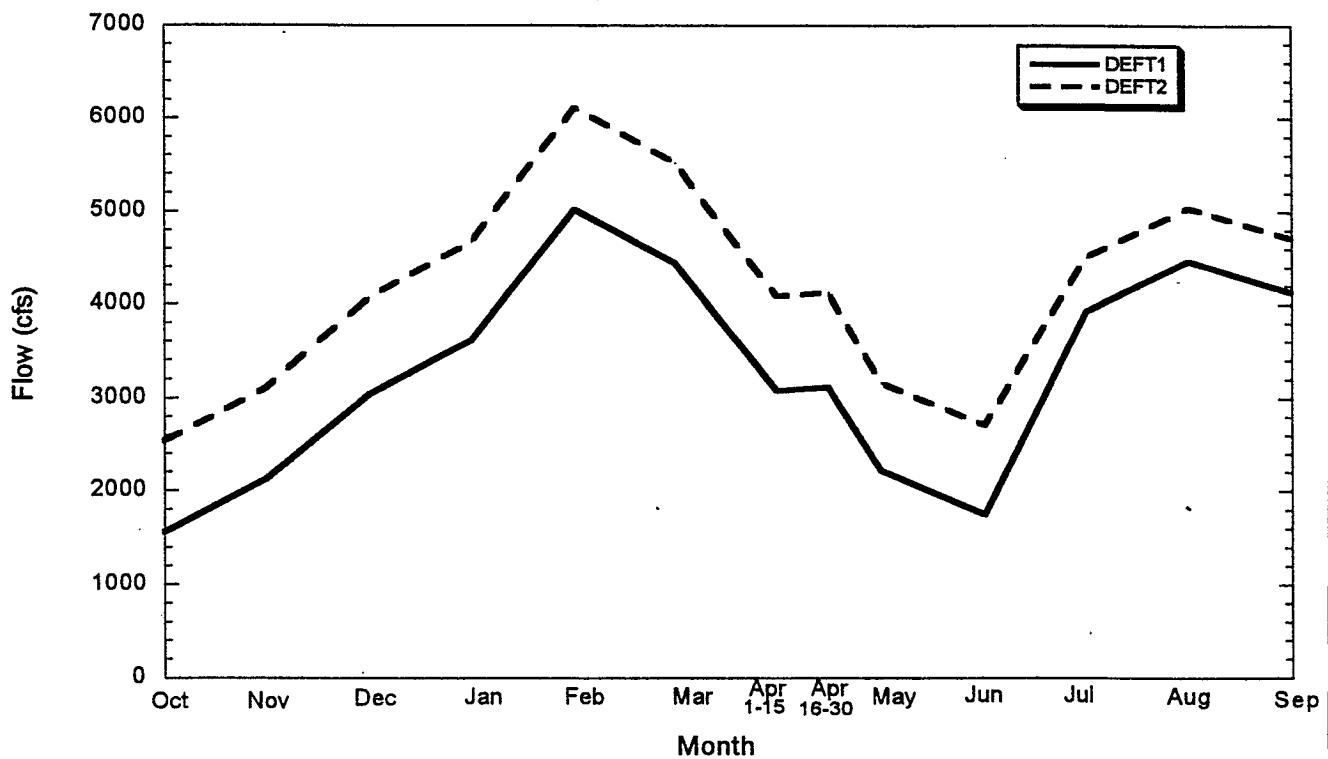


Figure F6: Little Potato Slough

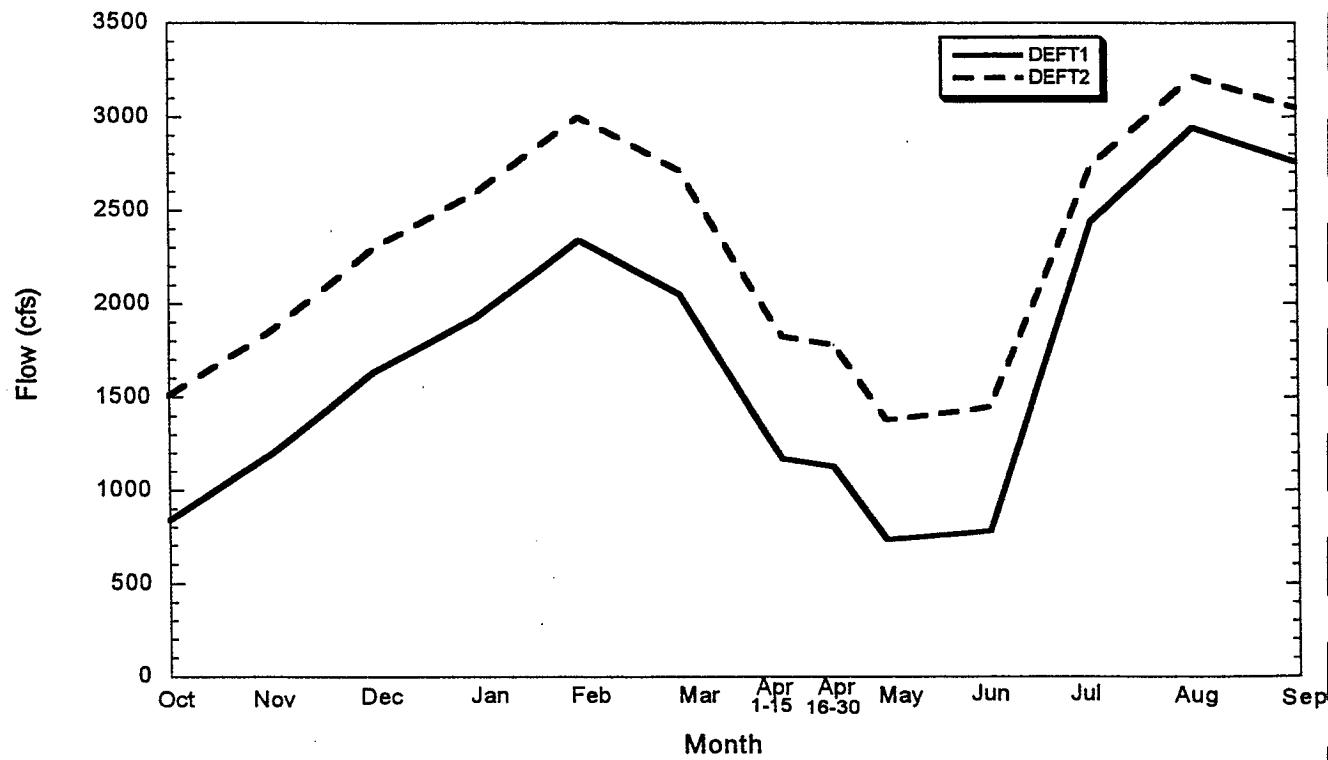


Figure F7: Old River at Bacon Island

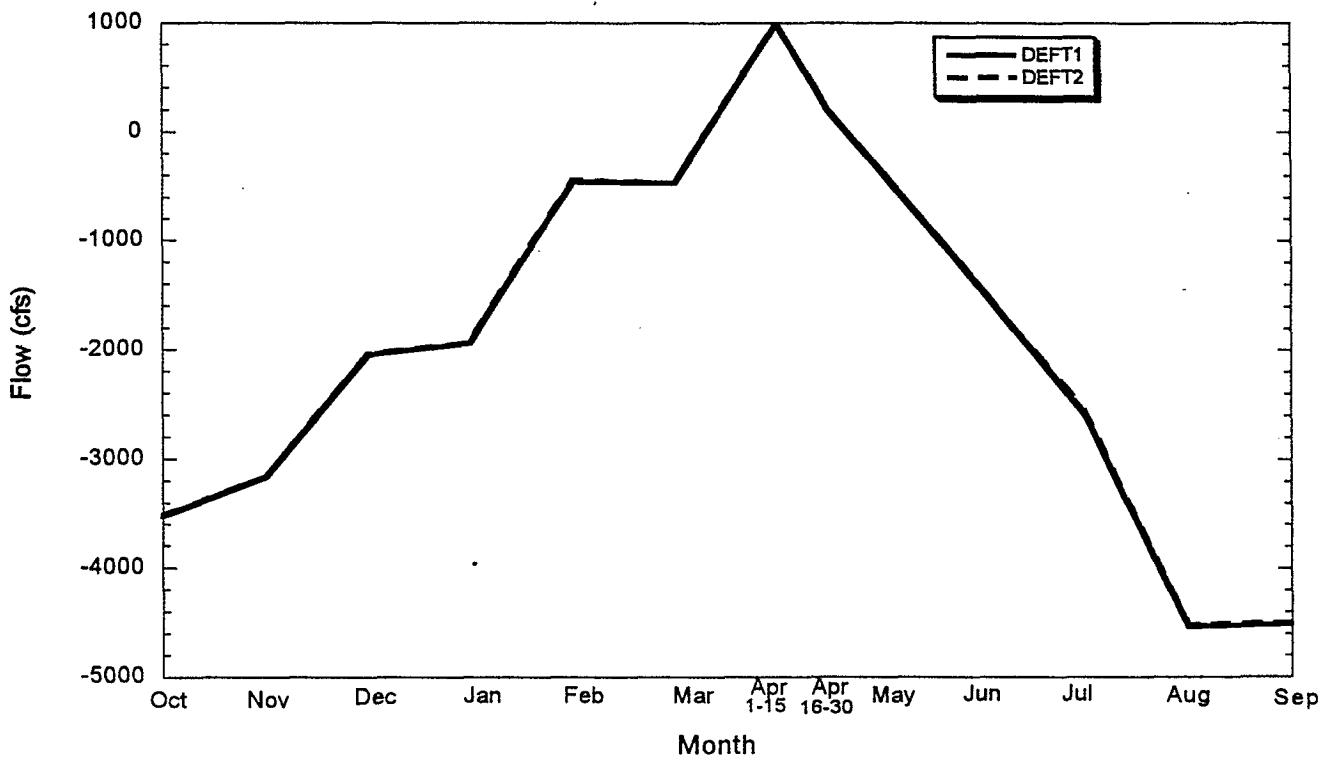
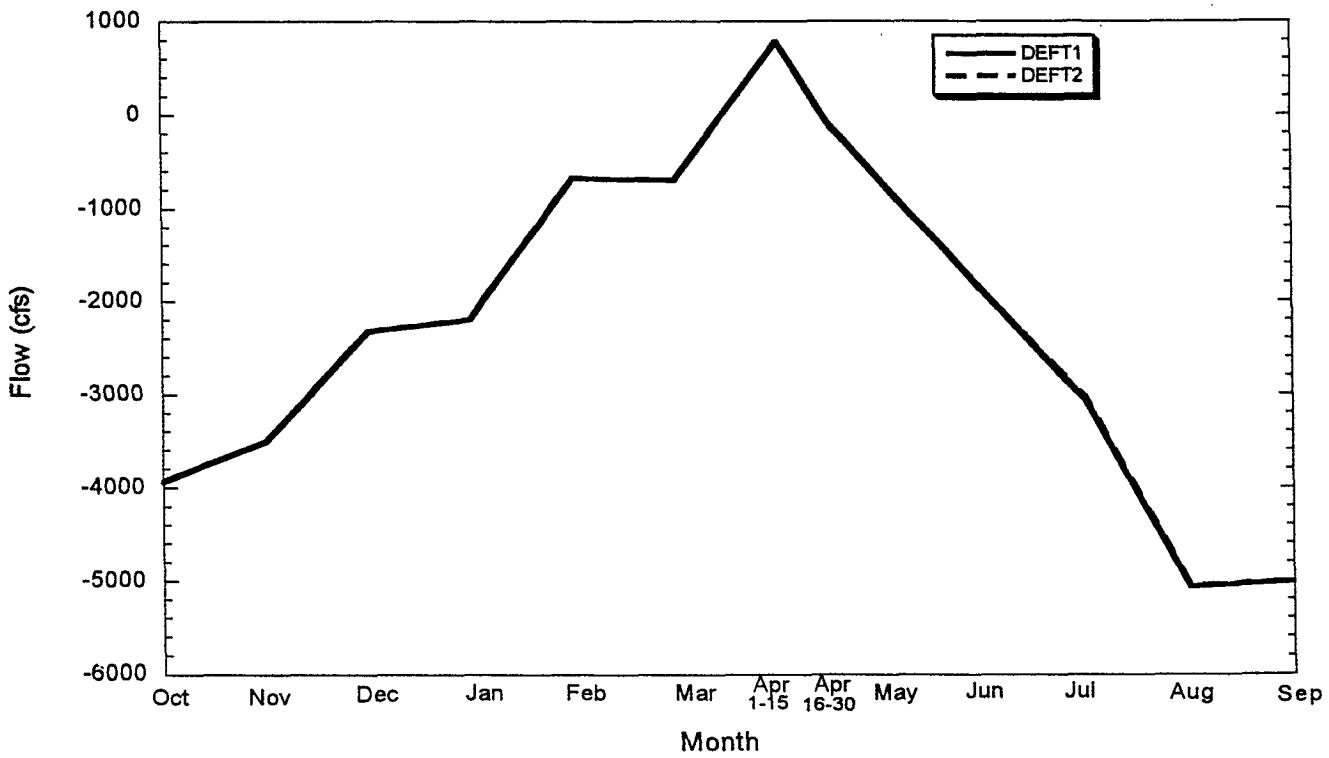


Figure F8: Middle River at Bacon Island



Old River and Middle River at Bacon Island - Identical Flow profiles (see Figures F7 and F8).

Electrical Conductivity (EC)

Average monthly values of EC for 16 years at 30 locations are shown in Table 1-4 and Table 2-4 of Appendix A and Appendix B. The 30 locations in the Delta are shown in Figures 1-3 and 2-3. Comparison of the Monthly average EC (averaged over 16 years) in ten locations between alternative DEFT1 and alternative DEFT2 are presented in Figures E1 - E10.

Emmaton - Because of lower Sacramento water, the EC values for alternative DEFT2 was slightly higher than EC values for alternative DEFT1. However in the period where the DXC is open alternative DEFT1 EC was marginally higher than alternative DEFT2 EC (see Figure E1).

Terminous - Higher flow in Little Potato Slough for alternative DEFT2 results in lower EC values (see Figure E2).

Jersey Point and Antioch - More Cross Delta flow in alternative DEFT2 resulted in lower EC values in Jersey Point and Antioch (see Figures E3 and E4).

Old River at Tracy - Both alternatives produced similar EC values. Lower EC values were noticed in October and November for alternative DEFT2 (see Figure E5). Higher pumping in fall draws more Sacramento water towards the pumps. Because alternative DEFT2 had a higher Cross Delta flow, better quality water id drawn towards the pumps. In addition, the fish control structure which is in operation during these months minimize the effect of San Joaquin salinity in Old and Middle River.

Middle River at Tracy Road - Lower EC values for alternative DEFT2 (see Figure E6). Similar explanation as for Old River at Tracy.

Turner Cut - Because San Joaquin flow results are identical for both alternatives similar EC values are obtained at Turner cut. San Joaquin EC has a big bearing on EC at Turner Cut. As expected alternative DEFT2 had a slightly lower EC value than alternative DEFT1 because of higher flows along the Little Potato Slough (see Figure E7).

Columbia Cut - Higher flows in alternative DEFT2 along Little Potato Slough resulted in lower EC values (see Figure E8).

Old River at Rock Slough - Similar EC profiles as in other South Delta stations (see Figure E9). EC for both alternatives were higher in fall. Higher exports from west canal in fall coupled with low NDO brings more ocean salt into South Delta.

Figure E1: Emmaton

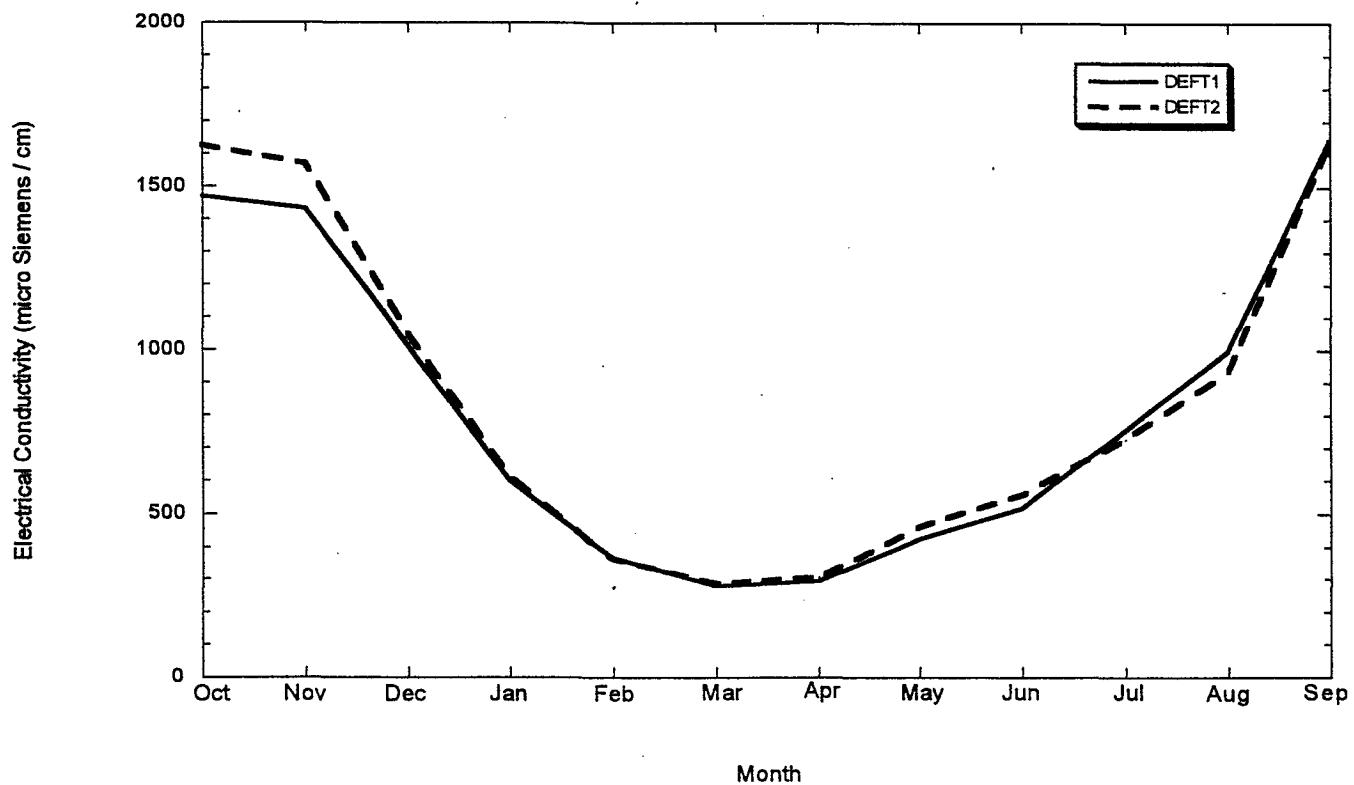


Figure E2: Terminous

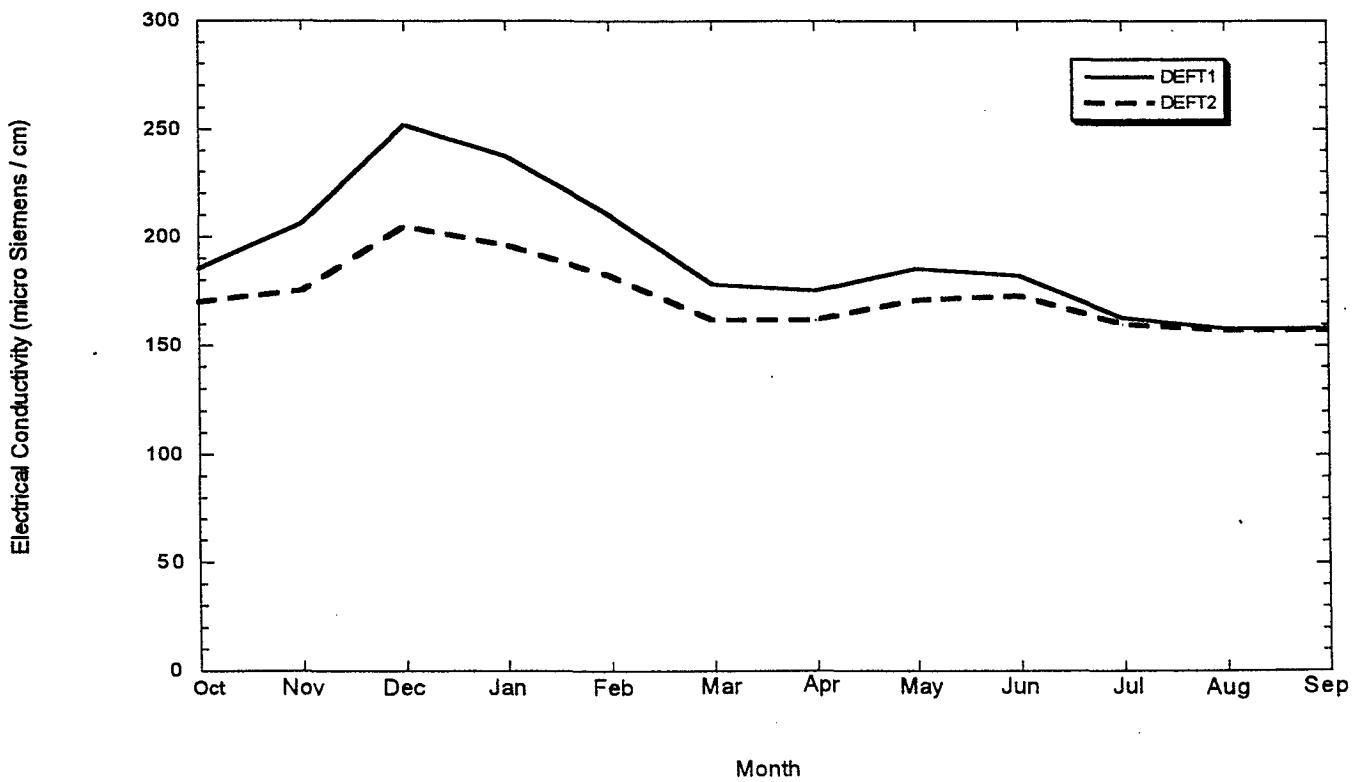


Figure E3: Jersey Point

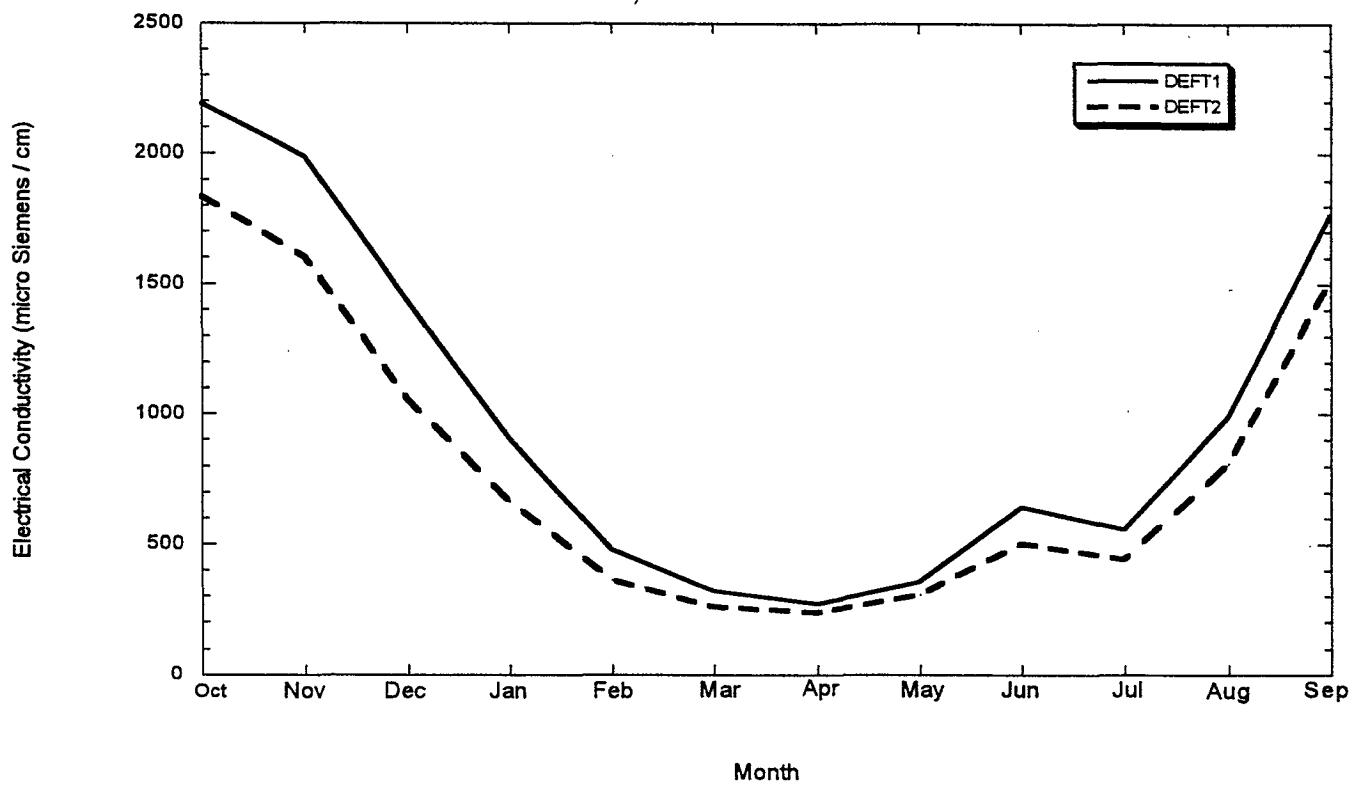


Figure E4: Antioch

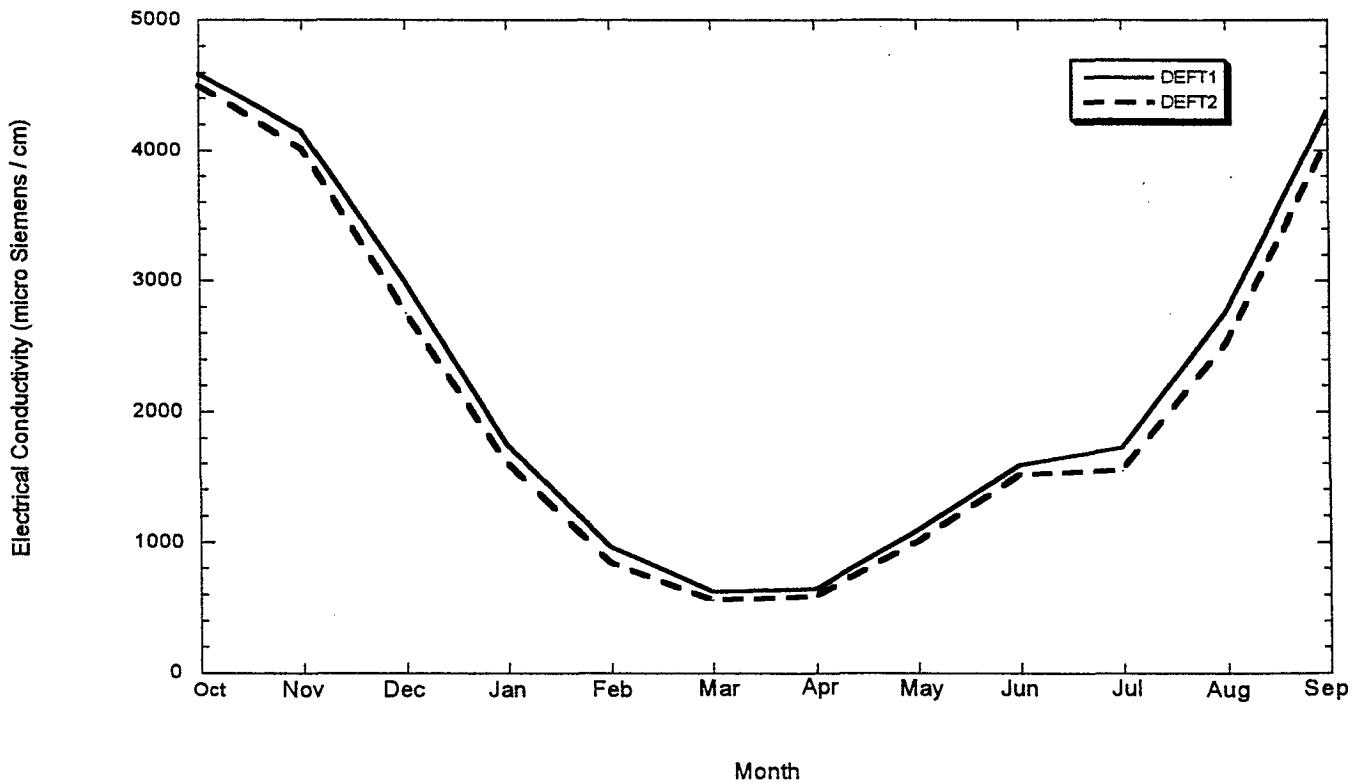


Figure E5: Old River at Tracy Road

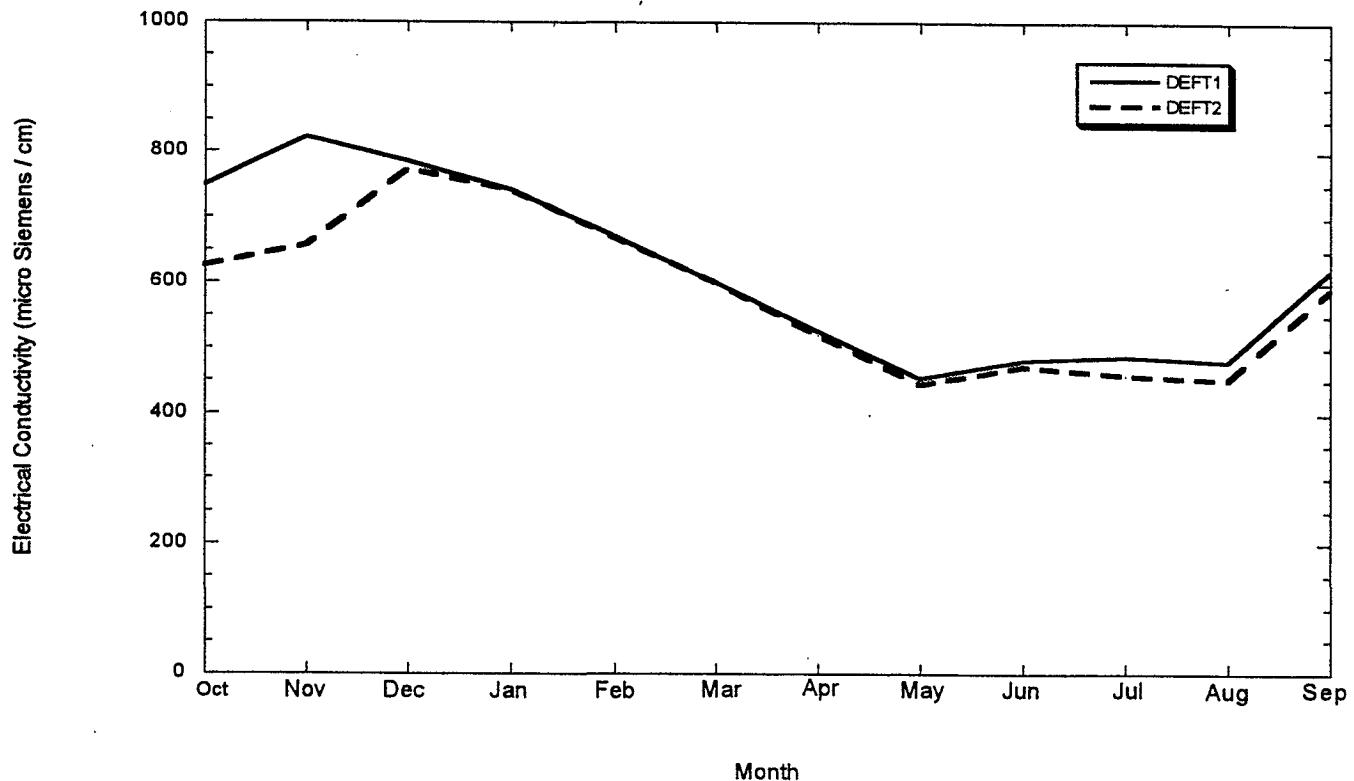


Figure E6: Middle River at Tracy Road

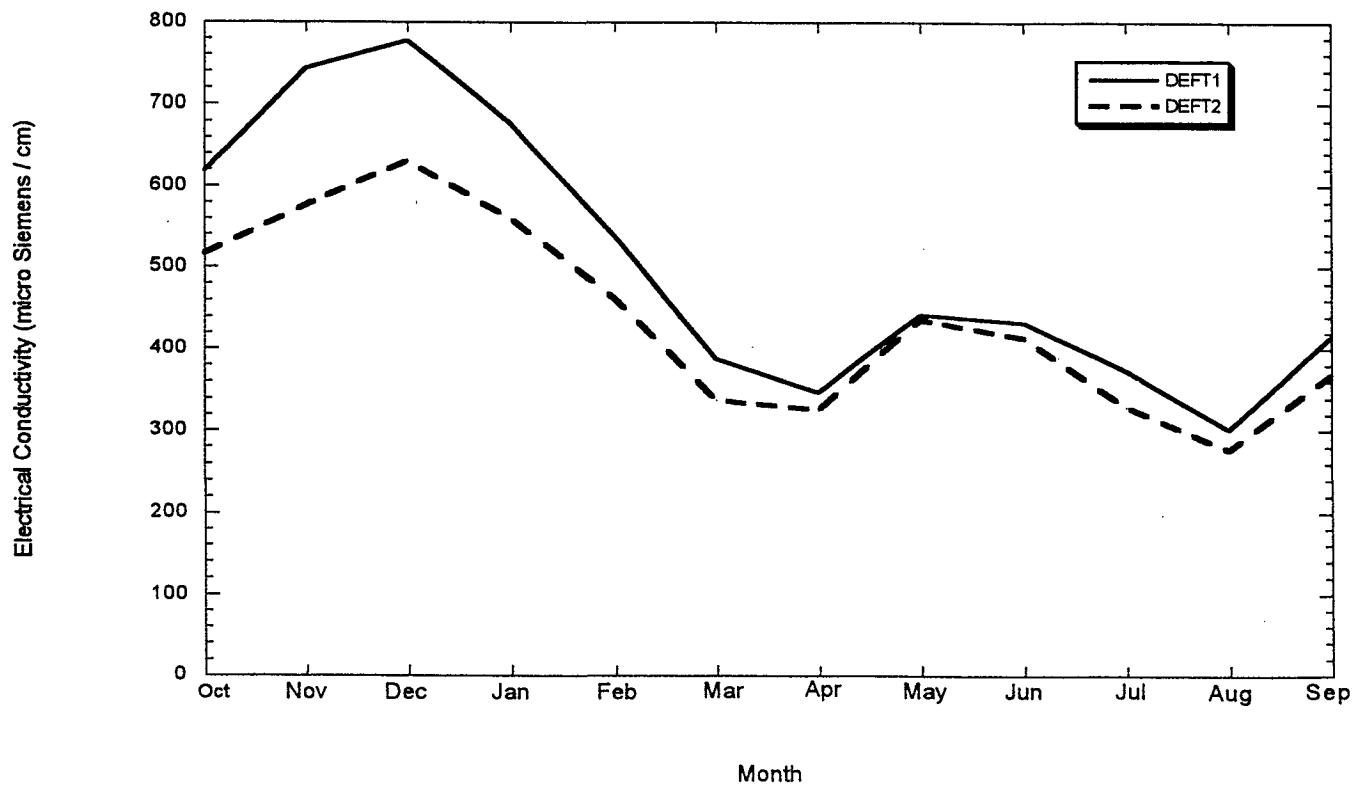


Figure E7: Turner Cut

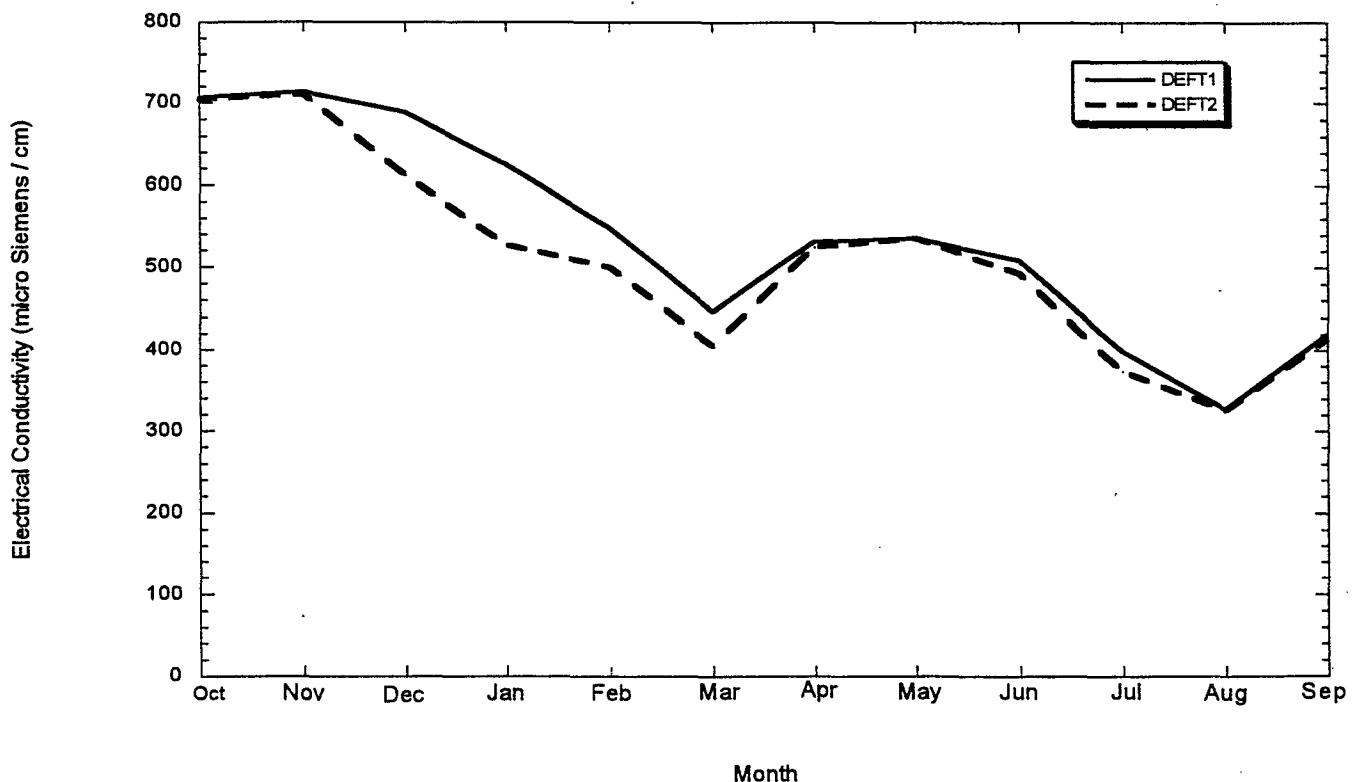


Figure E8: Columbia Cut

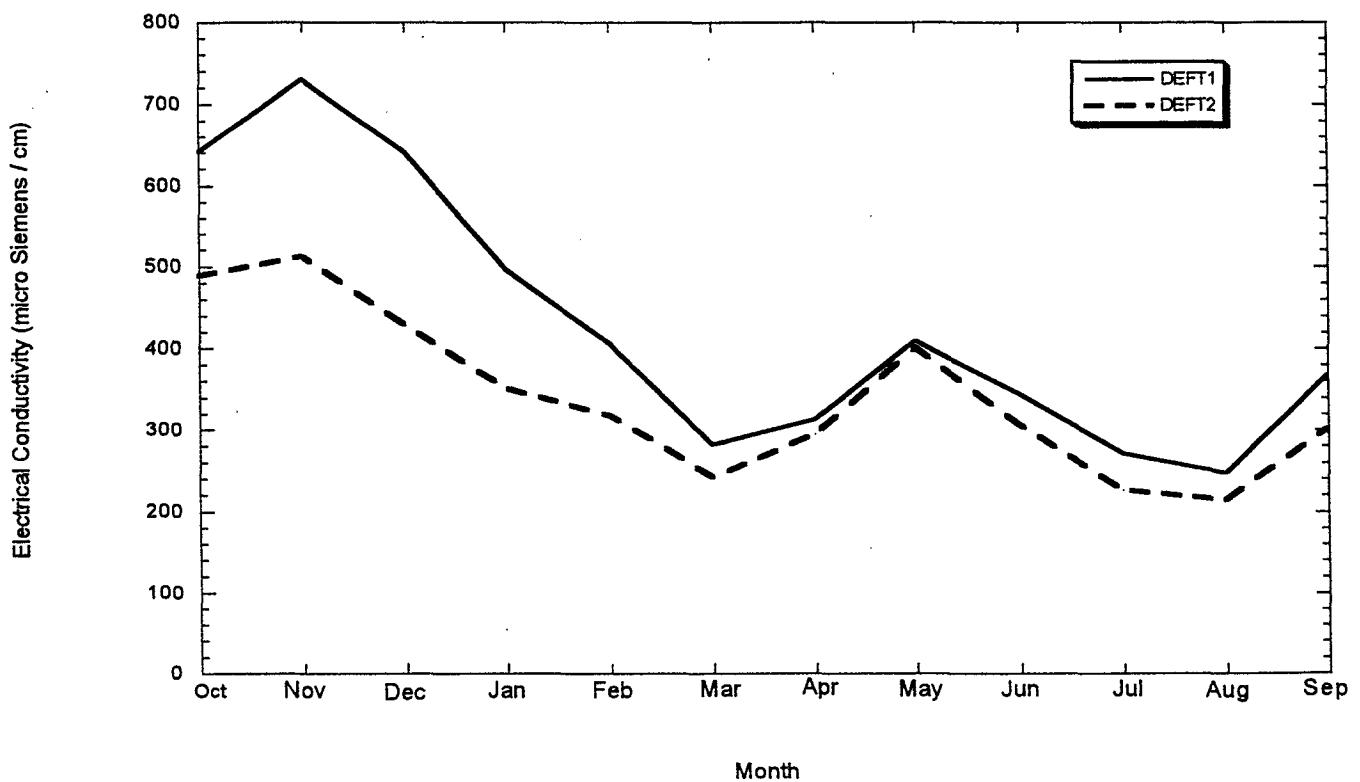


Figure E9: Old River at Rock Slough

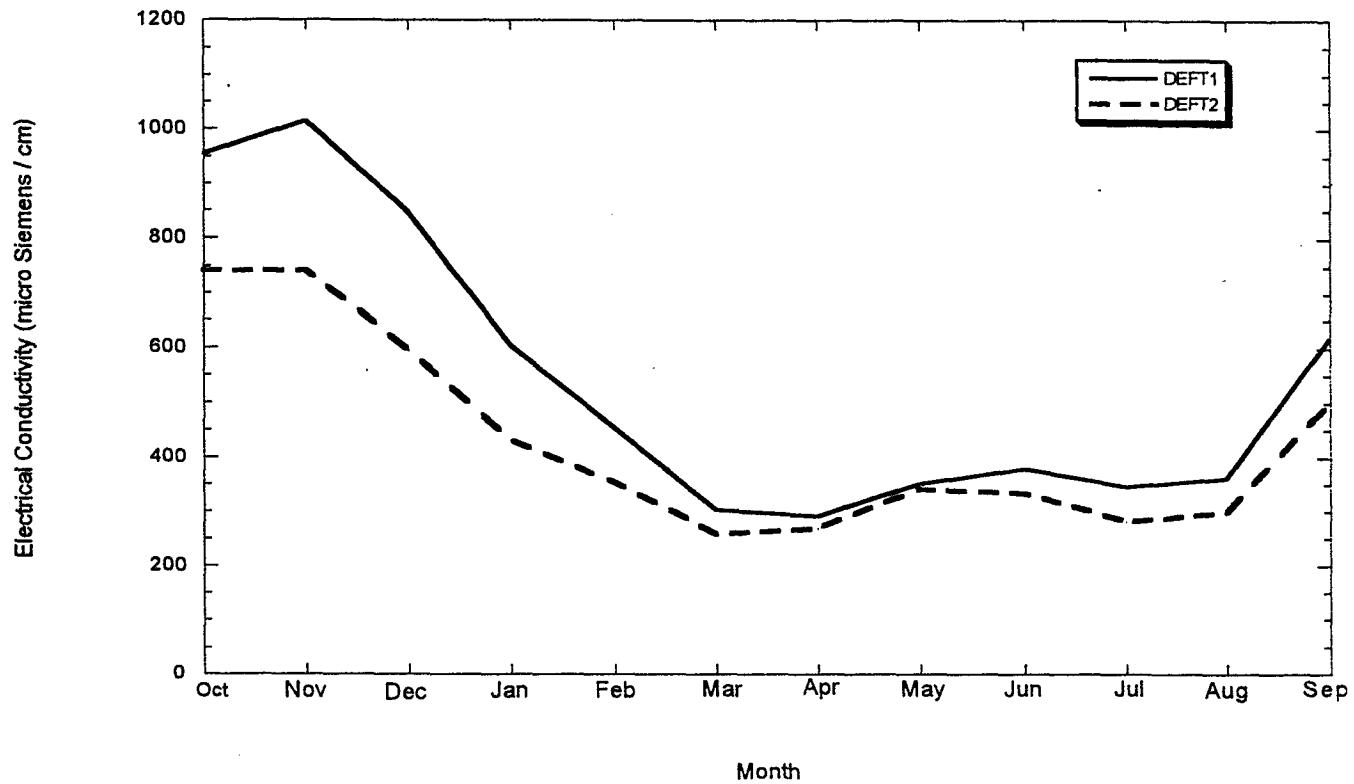


Figure E10: Clifton Court Forebay

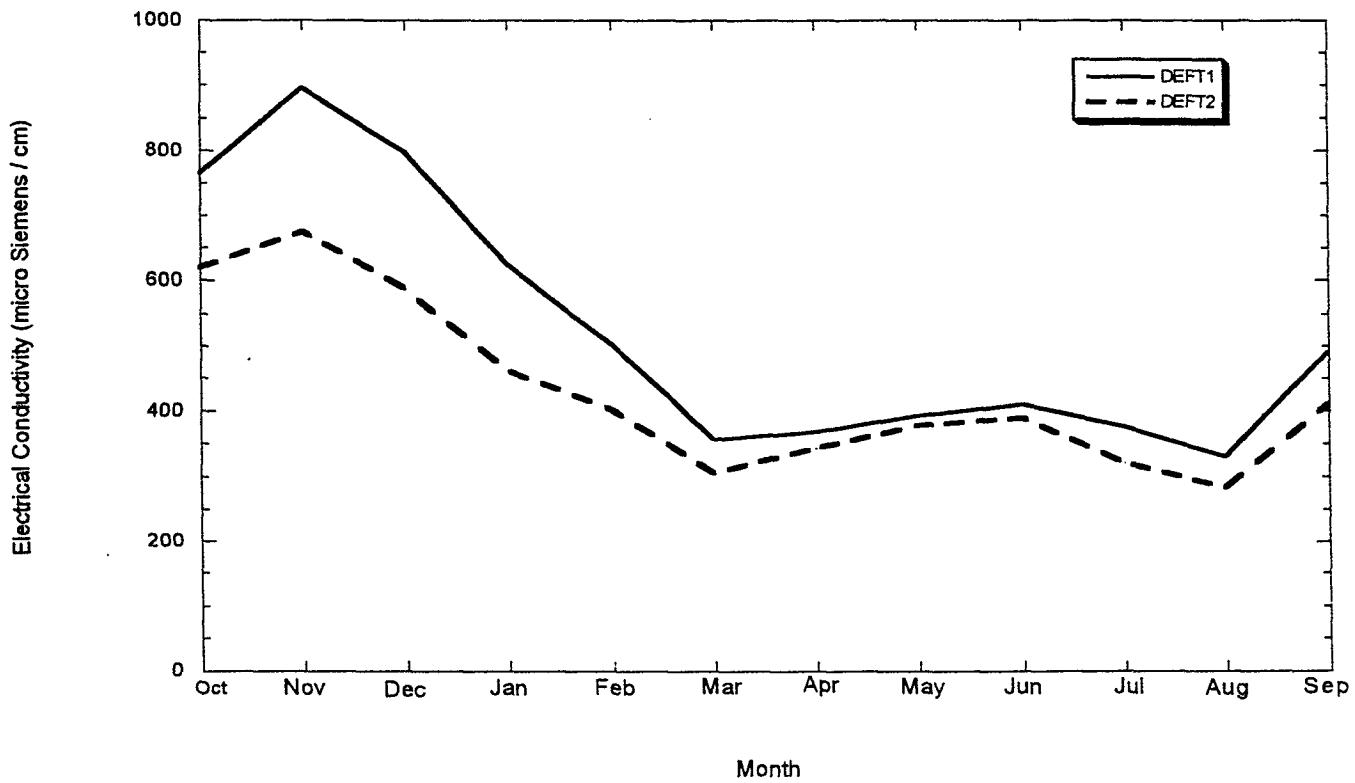
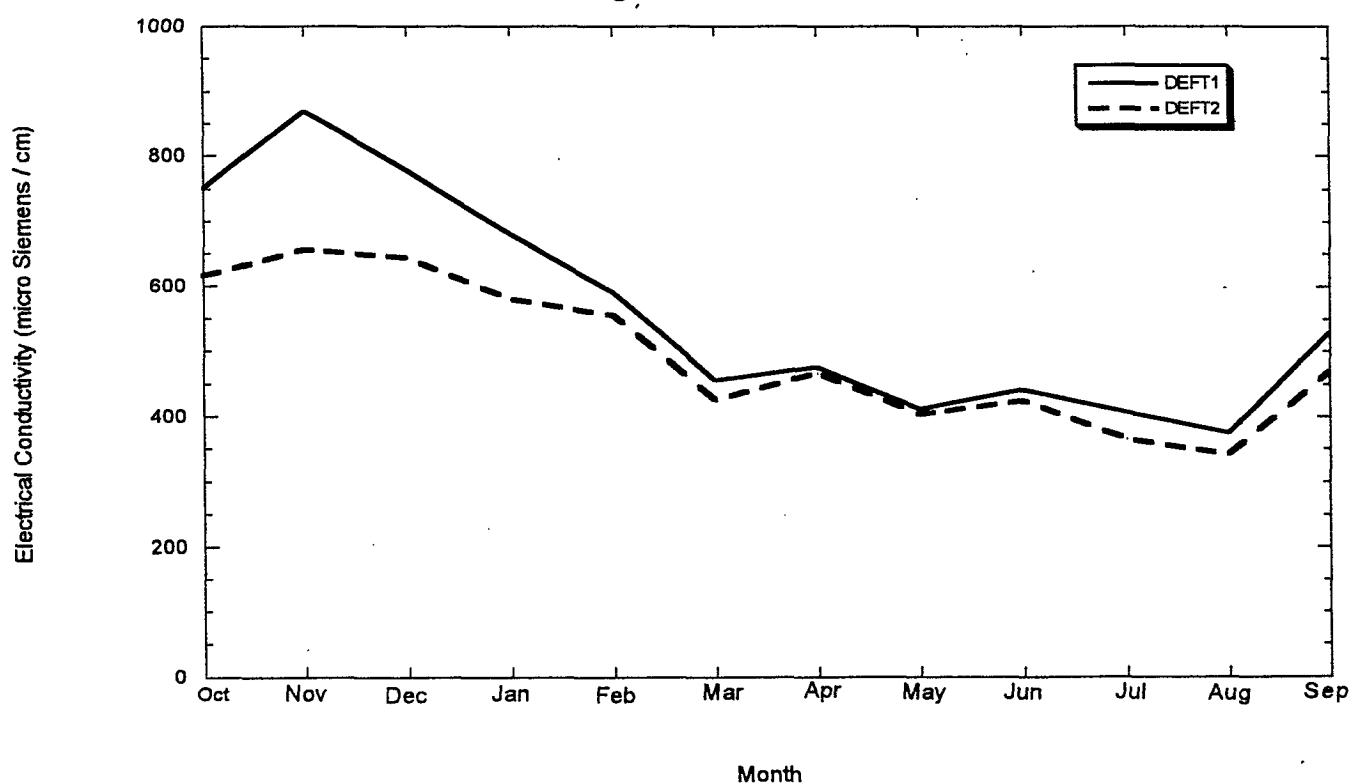


Figure E11: CVP Intake



Clifton Court Forebay - Very similar to Old River at Rock Slough (see Figure E10).

CVP Intake - Similar flow profiles as in CCFB. However EC values at CVP intake for both alternatives in winter and spring months were higher than at CCFB. The influence of San Joaquin River EC, is higher at CVP intake than in CCFB.

X2 Location

The mean monthly location of 2640 micro Siemens/cm EC (an equivalent of 2000 ppm at Chipps Island) was assumed to represent X2 location in this analysis. Typically X2 values were measured in kilometers (km) from the Golden Gate bridge (see Figures 1-4 and 2-4 of Appendix A and Appendix B). X2 locations for the 16 year period is shown in Tables 1-5 and 2-5. As expected lower X2 values were obtained during winter months when high Net Delta Outflow occurs. During the period when DXC was closed the X2 values for alternative DEFT2 was slightly higher than in alternative DEFT1.

Water Levels

All three south Delta flow control structures in Middle River, Grant Line Canal, and Old River near the existing DMC intake and the fish control structure at Old River at Head were in operation.. These structures operate to raise water levels upstream of their locations while also maintaining or improving circulation patterns. The schedule for barrier operations are listed in Tables 1-2 and 2-2 of Appendix A and AppendixB. Monthly minimum water levels at 14 locations in the South Delta during the irrigation season of April - September are presented in Tables 1-6 and 2-6. The 14 locations in the South Delta are shown in Figures 1-5 and 2-5.

Comparison between alternatives DEFT1 and DEFT2 of minimum water levels at 4 locations are shown in Figures W1-W4. The water levels in these four locations for both alternatives were very similar through-out the year.

Conclusions:

Lower water quality in fall and better water quality in spring and summer were observed in the South and Western Delta for both alternatives. This can be explained due to lower NDO and higher ocean salt intrusion due to higher pumping in fall from West Canal.

In the Eastern Delta, alternative DEFT2 produced better quality water than in Alternative DEFT1. Higher flows in Little Potato Slough and Mokelumne River were responsible lower EC values for DEFT2.

Diversion of 2,000 cfs had no impact on minimum water levels in South Delta.

Figure W1 - Old River at Middle River

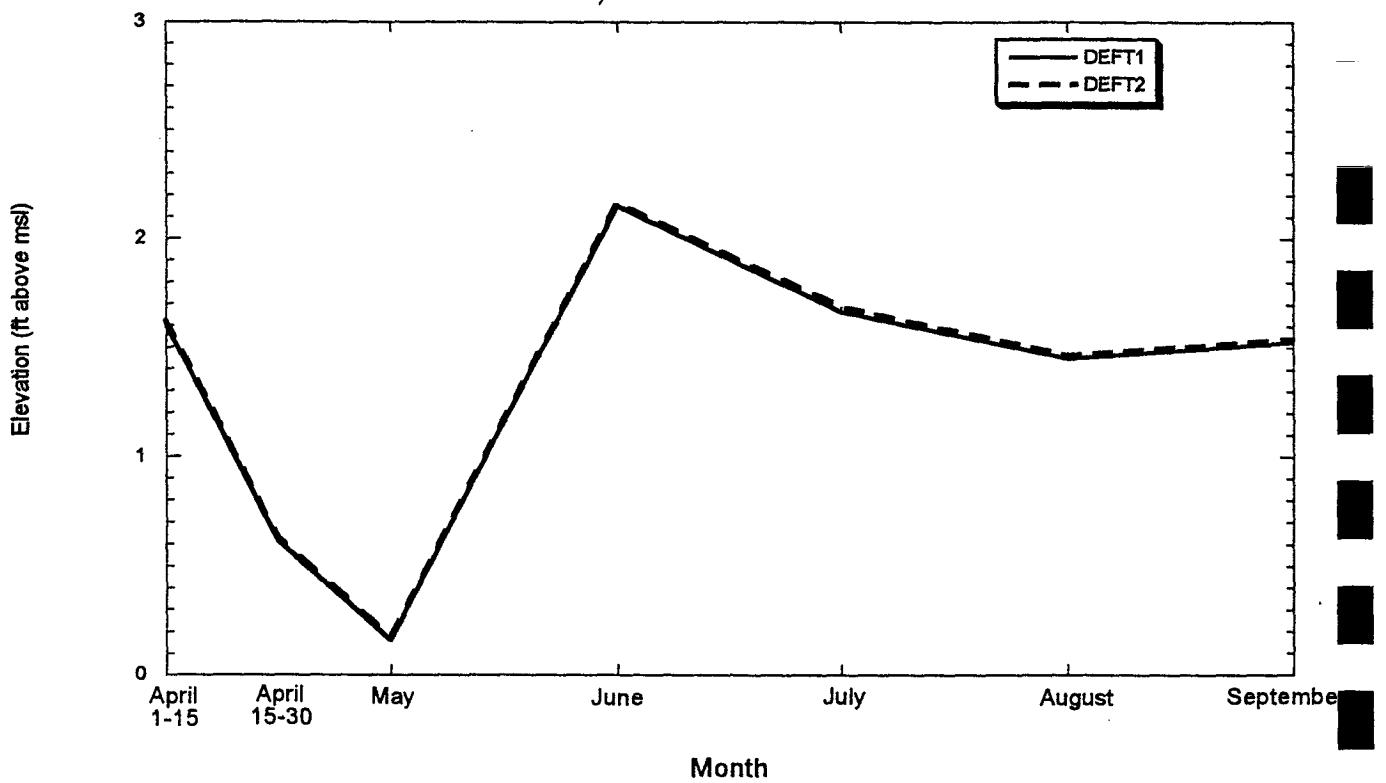


Figure W2- Old River at Tracy

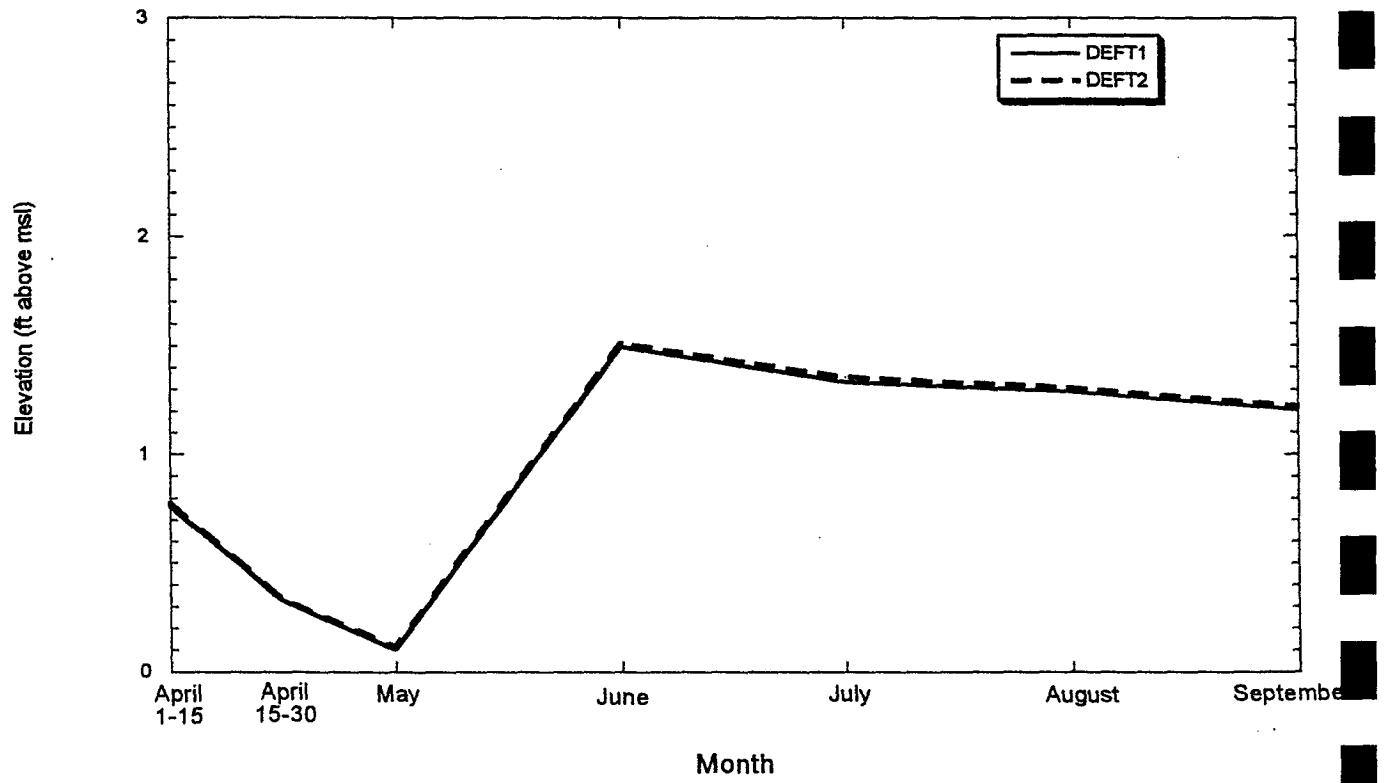


Figure W3- Middle River at Tracy Road

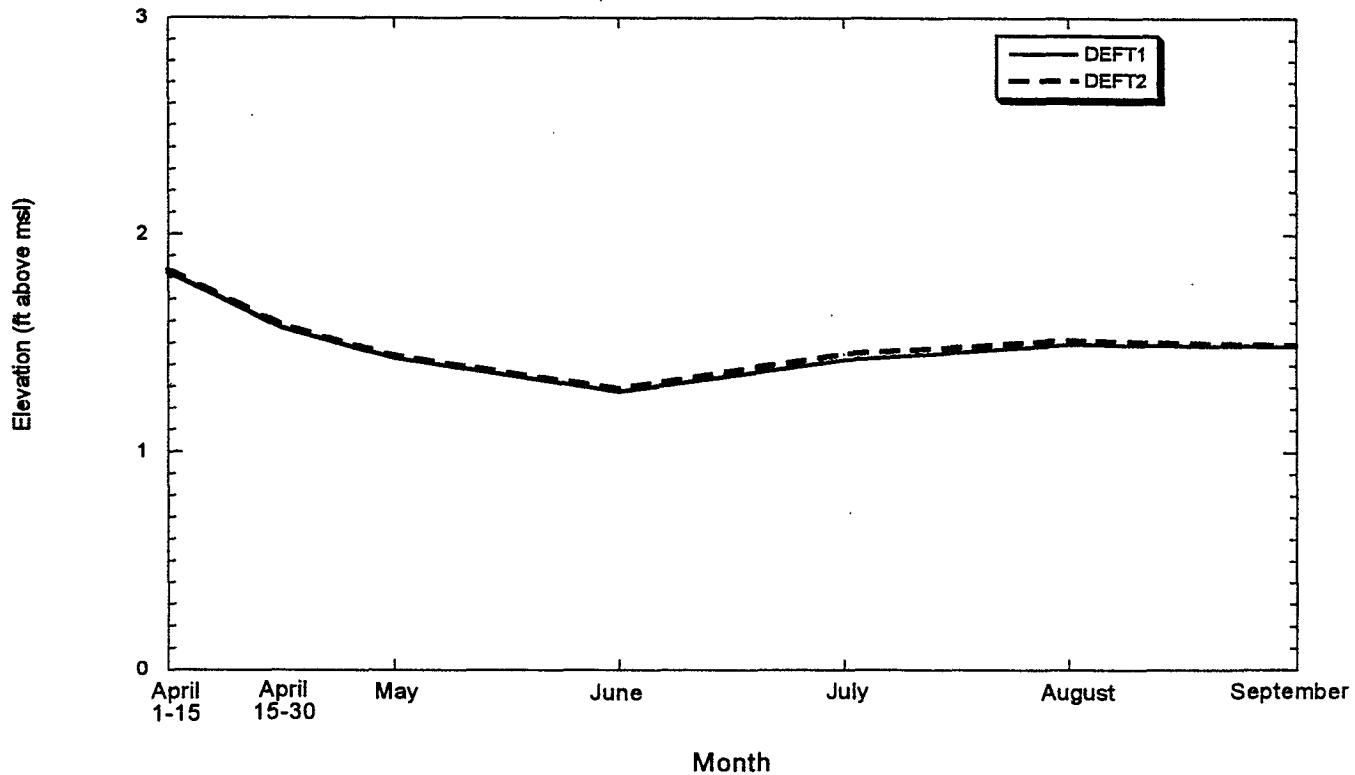
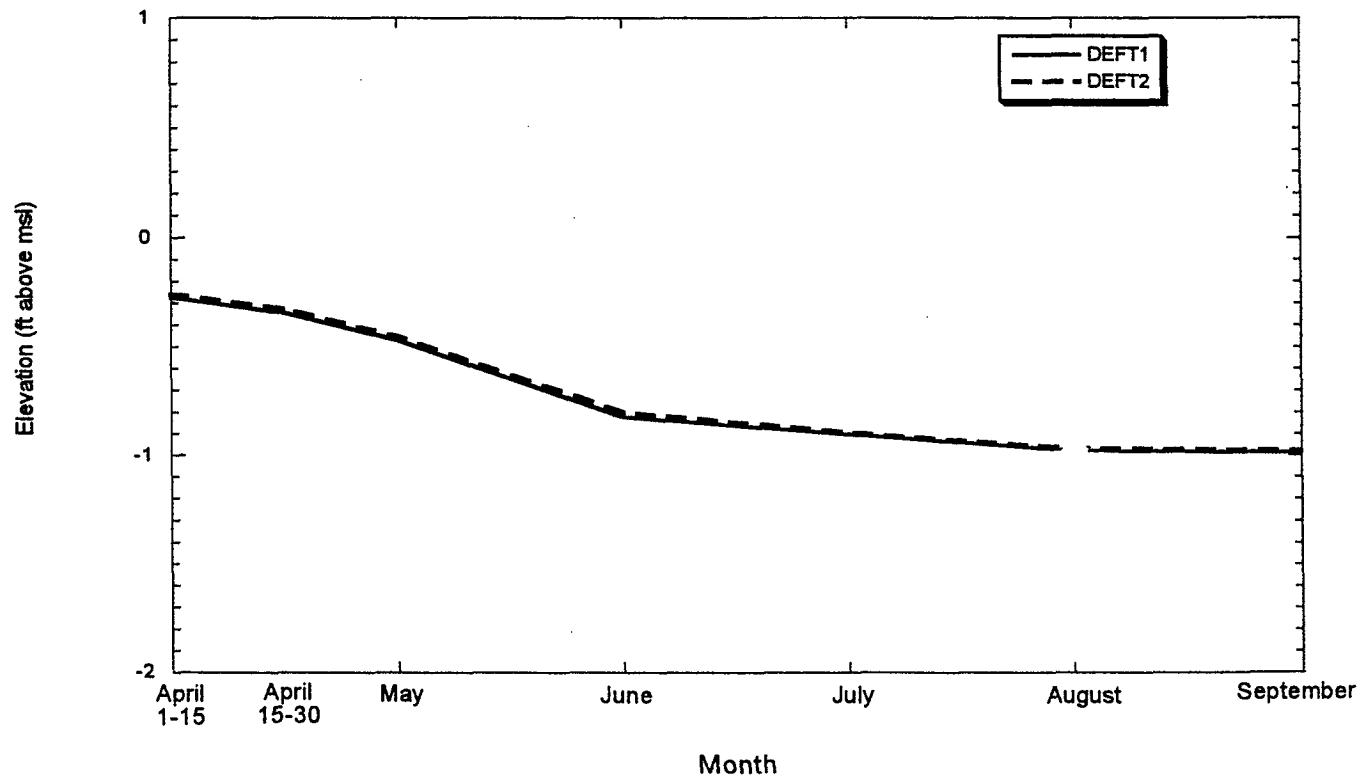


Figure W4 - Old River at Highway 4



Appendix A

Alternative DEFT1

Delta Modeling Assumptions and Results

Figure 1-1
Alternative DEFT1

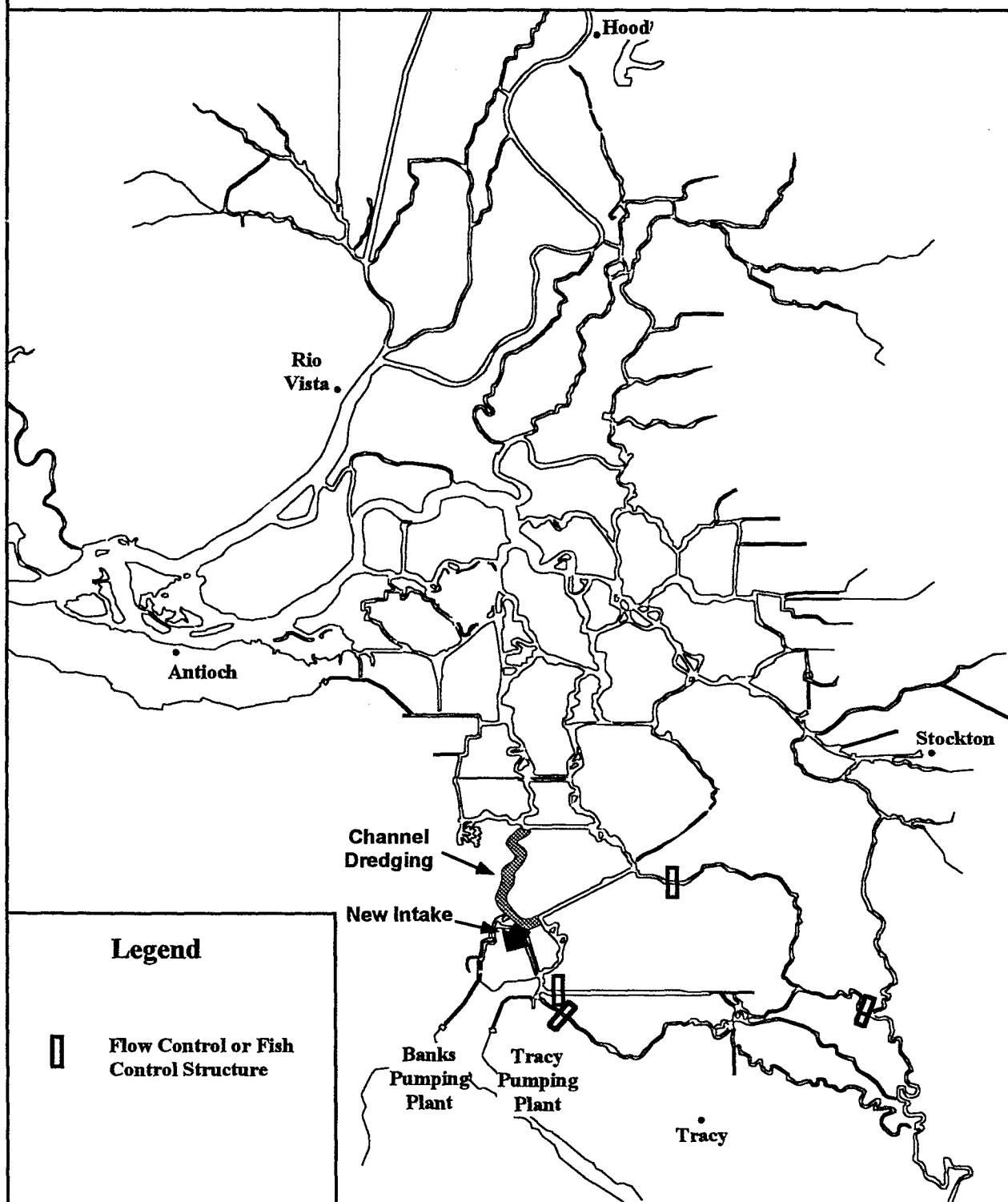


Table 1-1
Delta Hydrology for Alternative DEFT1 (DWRSIM Study 689)
Water Years 1976 - 1991
 (values in cfs)

Sacramento River Inflow at I Street

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	20,861	16,399	14,652	14,880	19,948	17,405	8,206	9,858	12,625	10,547	14,901	13,161
1977	9,805	8,008	7,669	8,690	8,907	7,826	8,401	7,579	12,465	9,225	6,517	7,795
1978	5,820	5,268	11,946	48,475	50,654	45,911	37,158	19,455	14,678	18,726	12,945	16,574
1979	13,171	13,085	12,001	24,525	41,653	32,675	18,182	12,562	17,059	17,738	19,308	16,255
1980	13,393	16,030	20,647	54,938	71,146	36,143	19,964	15,441	13,790	17,658	12,048	15,943
1981	12,123	11,912	15,595	22,965	29,512	31,152	17,639	12,249	10,786	11,190	19,812	17,101
1982	10,814	31,644	68,775	51,089	67,764	68,818	74,342	37,372	22,409	21,824	16,227	19,850
1983	23,331	38,478	56,655	59,978	83,167	81,983	68,331	54,463	55,479	23,361	19,769	27,482
1984	25,028	62,800	82,951	47,139	36,767	35,161	16,069	14,817	14,819	18,210	20,785	17,157
1985	13,358	32,960	23,743	16,912	19,103	17,930	12,781	10,757	11,857	11,565	19,652	17,411
1986	10,134	10,287	16,732	24,158	97,898	71,604	22,186	13,900	11,415	22,794	16,554	15,747
1987	13,024	10,852	12,818	15,890	21,816	25,949	10,314	10,149	11,967	11,086	19,757	15,683
1988	8,984	7,415	15,746	27,212	14,165	14,971	8,629	9,388	12,530	11,257	13,369	8,029
1989	7,771	8,527	8,883	13,512	9,636	41,505	25,483	11,833	11,422	12,072	20,355	15,485
1990	12,601	10,724	10,347	20,438	15,820	13,680	11,513	9,610	12,667	11,374	10,381	10,593
1991	9,831	7,749	6,974	7,999	11,968	30,078	16,493	9,925	11,107	11,000	8,708	8,930

San Joaquin River at Vernalis

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	4,066	1,865	1,854	1,594	2,017	1,724	3,193	3,204	1,294	1,301	1,334	1,227
1977	2,813	2,134	1,708	1,252	1,242	1,155	2,000	2,000	1,260	894	732	975
1978	1,269	1,294	1,415	3,236	7,184	10,652	15,109	11,287	7,210	2,944	1,756	2,672
1979	4,212	1,933	1,773	3,952	8,967	8,749	7,008	6,993	1,916	1,659	1,626	1,781
1980	1,838	1,697	1,870	11,482	19,558	14,100	7,008	7,188	7,176	3,854	1,675	2,639
1981	4,814	1,882	1,724	2,163	2,521	3,009	5,697	5,692	1,479	1,317	1,431	1,344
1982	1,691	1,681	1,675	5,383	14,621	15,206	26,738	15,889	10,218	4,180	2,700	5,143
1983	8,749	8,991	19,011	24,785	36,462	41,145	20,839	19,873	36,402	15,645	3,025	7,462
1984	7,644	13,899	21,418	15,125	9,631	5,969	7,008	6,456	2,302	1,740	1,838	2,000
1985	1,952	1,865	1,854	1,610	2,035	2,163	4,454	4,456	1,529	1,317	1,447	1,344
1986	1,659	1,647	1,675	1,626	15,377	24,199	9,462	8,359	8,773	1,789	1,756	2,034
1987	3,431	1,815	1,659	1,578	1,927	1,952	3,193	3,204	1,344	1,350	1,382	1,294
1988	1,366	1,328	1,236	1,203	1,200	1,220	2,000	2,000	1,277	1,041	862	1,193
1989	1,269	1,176	1,236	1,138	1,206	1,529	2,050	1,724	1,260	1,057	878	1,193
1990	1,220	1,210	1,138	1,073	1,206	1,285	1,765	1,512	1,193	732	797	1,160
1991	1,187	1,193	1,122	992	954	2,261	2,454	1,887	1,193	748	439	790

Department of Water Resources, Delta Modeling Section

Table 1-1 (cont.)
Delta Hydrology for Alternative DEFT1 (DWRSIM Study 689)
Water Years 1976 - 1991

(values in cfs)

Yolo Bypass Inflow

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	114	0	65	16	17	163	118	81	84	98	423	202
1977	49	17	33	49	36	114	151	618	151	211	114	50
1978	49	134	683	14,328	6,878	16,816	1,042	49	134	293	130	101
1979	49	67	16	683	612	195	50	65	67	163	49	50
1980	33	67	976	31,436	42,193	15,092	50	309	336	276	244	50
1981	49	50	98	407	576	146	50	65	185	163	114	50
1982	16	3,227	23,272	20,784	22,165	5,155	36,486	407	67	130	49	17
1983	81	1,529	10,603	20,865	58,628	113,499	15,377	3,155	908	49	49	50
1984	33	5,311	46,561	14,994	852	537	101	81	67	65	49	50
1985	1,382	992	33	130	180	16	50	65	67	49	49	50
1986	33	202	634	33	89,382	55,213	1,076	65	67	49	49	50
1987	49	34	81	98	198	374	84	65	67	49	49	50
1988	33	67	407	1,220	87	65	84	65	50	49	49	50
1989	49	50	146	65	72	455	134	65	67	49	49	17
1990	0	34	33	244	702	33	185	33	67	49	49	50
1991	98	0	49	33	72	634	50	65	67	49	49	50

Contra Costa Canal Diversion

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	211	185	146	114	104	195	168	228	235	309	260	269
1977	228	185	179	130	162	195	168	228	235	309	260	269
1978	228	185	179	130	162	98	101	211	269	309	325	252
1979	211	185	146	114	108	98	101	211	269	309	325	252
1980	211	185	146	114	104	98	101	211	269	309	325	252
1981	211	185	146	114	108	98	101	211	269	309	325	252
1982	211	185	146	114	108	98	101	211	269	309	325	252
1983	211	185	146	114	108	98	101	211	269	309	325	252
1984	211	185	146	114	104	98	101	211	269	309	325	252
1985	211	185	146	114	108	98	101	211	269	309	325	252
1986	211	185	146	114	108	98	101	211	269	309	325	252
1987	211	185	146	114	108	98	101	211	269	309	325	252
1988	211	185	146	114	104	98	101	211	269	309	325	252
1989	211	185	146	114	108	98	101	211	269	309	325	252
1990	211	185	146	114	108	195	168	228	235	309	260	269
1991	228	185	179	130	162	195	168	228	235	309	260	269

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Table 1-1 (cont.)
Delta Hydrology for Alternative DEFT1 (DWRSIM Study 689)
Water Years 1976 - 1991

(values in cfs)

Banks Pumping

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	10,018	5,697	3,822	3,789	2,712	2,472	756	748	1,798	1,789	10,294	5,462
1977	3,334	2,857	2,163	2,309	1,332	1,171	756	748	1,563	374	455	1,731
1978	293	1,513	3,269	10,148	9,867	2,602	756	748	2,823	7,270	2,927	10,000
1979	6,912	4,252	3,171	5,969	4,916	4,830	756	748	2,487	4,586	10,018	8,907
1980	5,497	5,412	6,294	2,830	2,364	2,049	756	748	2,840	7,741	2,976	10,016
1981	6,668	3,899	3,415	4,196	4,970	4,928	1,126	1,122	1,597	1,594	10,294	9,226
1982	2,960	10,302	10,294	4,667	5,510	5,464	756	748	4,319	10,294	7,823	10,302
1983	10,018	6,974	5,155	1,350	1,350	1,334	756	748	10,084	3,627	6,847	4,101
1984	2,781	2,386	1,887	2,895	3,720	4,017	756	748	2,269	4,001	10,294	10,016
1985	6,473	10,016	5,481	4,619	3,853	2,976	756	748	1,714	1,821	10,294	9,680
1986	3,968	3,479	4,424	7,546	9,453	2,944	756	748	2,706	10,294	6,212	9,344
1987	6,359	3,546	3,366	4,049	3,457	4,879	756	748	1,714	1,708	10,181	7,546
1988	2,895	1,865	4,098	9,026	1,982	1,903	756	748	1,042	748	3,692	1,429
1989	1,578	3,160	2,423	3,366	1,404	6,652	756	748	1,647	1,773	10,294	8,117
1990	4,131	2,807	2,635	6,505	3,331	1,952	756	748	1,781	1,773	4,554	3,160
1991	2,082	2,319	1,870	1,578	972	4,310	756	748	1,580	1,643	1,626	1,697

Tracy Pumping

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	4,602	4,605	3,822	3,789	2,712	2,472	756	748	1,798	1,789	1,334	4,605
1977	2,635	2,857	2,163	2,309	612	878	756	748	1,210	1,578	1,220	2,639
1978	16	958	3,269	4,602	4,610	1,643	756	748	2,823	2,326	4,602	4,605
1979	4,602	4,252	3,171	4,602	1,801	2,765	756	748	2,487	4,586	4,602	4,605
1980	4,602	4,605	4,602	1,529	765	1,578	756	748	2,840	2,830	4,602	4,605
1981	4,602	3,899	4,602	3,773	1,801	2,521	1,126	1,122	1,597	1,594	4,602	4,605
1982	4,602	4,605	4,586	1,203	1,567	3,057	756	748	4,319	4,602	4,602	4,605
1983	4,602	4,605	2,212	960	1,404	1,561	756	748	4,605	4,602	4,602	3,244
1984	1,155	1,311	2,130	960	1,460	2,651	756	748	2,269	4,001	4,602	4,605
1985	4,602	4,605	4,602	1,025	1,765	2,326	756	748	1,714	1,821	4,602	4,605
1986	2,667	3,479	4,424	4,602	4,141	1,545	756	748	2,706	2,618	4,602	4,605
1987	4,602	3,681	3,366	4,049	2,737	2,163	756	748	1,714	1,708	4,602	4,605
1988	2,293	2,000	4,098	4,602	1,843	2,033	756	748	2,504	2,781	4,602	2,958
1989	651	2,386	2,423	3,366	1,404	4,602	756	748	1,647	1,773	4,602	4,605
1990	4,602	3,933	2,635	3,480	1,242	1,919	756	748	1,781	1,773	797	3,781
1991	2,261	2,101	1,870	2,537	306	4,310	756	748	1,580	1,643	1,821	3,059

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Table 1-1 (cont.)
Delta Hydrology for Alternative DEFT1 (DWRSIM Study 689)
Water Years 1976 - 1991

(values in cfs)

Delta Channel Depletions

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	716	857	943	49	417	1,431	1,681	3,383	4,286	4,326	1,952	1,412
1977	1,203	807	862	-114	522	1,057	2,185	1,691	4,252	4,391	2,700	1,361
1978	1,252	689	195	-4,976	-1,909	-1,610	454	2,391	4,252	4,326	2,862	1,597
1979	1,366	622	894	-2,114	-2,557	163	1,244	2,423	4,420	4,212	2,651	1,849
1980	829	723	33	-2,651	-3,494	293	1,244	2,049	3,815	3,871	2,651	1,647
1981	1,317	891	764	-683	180	-276	1,613	2,553	4,588	4,440	2,862	1,580
1982	813	151	-472	-4,407	-612	-2,927	67	2,391	3,613	4,147	2,700	975
1983	764	-1,025	-813	-4,749	-3,565	-4,651	0	2,017	4,151	4,147	2,781	1,462
1984	1,171	50	-2,000	-146	-174	716	1,546	2,797	4,168	4,391	2,797	1,916
1985	797	-370	49	-504	18	-390	1,748	2,862	4,420	4,261	2,651	1,395
1986	1,090	420	98	-1,447	-5,906	-1,285	1,227	2,342	4,185	4,261	2,927	1,277
1987	1,285	891	829	-163	-342	-114	2,034	2,944	4,185	4,033	2,813	1,815
1988	1,138	672	325	-1,415	313	1,008	1,513	2,293	3,899	4,798	2,927	1,849
1989	1,317	672	651	-114	90	0	1,966	2,781	4,067	4,619	2,797	891
1990	960	756	911	-423	-234	1,008	1,933	1,269	4,319	4,570	2,862	1,798
1991	1,203	874	813	33	414	-455	1,563	2,114	3,344	4,489	2,732	1,933

Net Delta Outflow

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	9,823	7,294	8,164	9,026	15,716	13,124	8,420	8,262	6,151	4,001	2,992	3,008
1977	5,448	3,596	4,212	5,578	7,743	6,050	7,092	6,944	6,890	4,001	2,992	3,008
1978	5,464	3,496	7,595	59,327	54,126	73,249	53,914	27,615	12,352	8,001	4,358	3,025
1979	4,505	6,050	6,635	22,134	50,345	36,592	23,629	16,767	10,151	6,505	4,001	3,008
1980	4,293	7,193	13,075	104,555	138,141	63,946	25,310	20,719	12,857	8,001	4,342	3,008
1981	4,424	5,227	8,815	18,946	26,055	28,639	19,915	13,254	4,638	4,993	3,497	3,008
1982	4,001	22,335	81,136	83,332	107,172	90,894	149,103	53,489	21,898	8,001	4,667	10,000
1983	17,011	41,998	88,829	117,842	192,412	257,622	108,315	80,827	77,946	28,168	9,920	27,545
1984	27,891	85,156	160,093	77,266	43,984	36,153	21,192	18,068	9,109	8,001	5,285	3,008
1985	4,846	22,772	16,052	13,840	16,656	16,117	14,621	10,994	5,546	4,993	3,497	3,008
1986	4,001	5,008	10,522	16,149	214,505	156,808	31,562	19,776	11,663	8,001	5,090	3,008
1987	4,293	4,739	7,205	9,872	18,780	22,313	10,218	8,961	5,748	4,993	3,497	3,008
1988	4,001	4,504	9,514	17,906	11,005	11,400	7,832	7,644	6,403	4,001	2,992	3,008
1989	5,448	3,647	5,107	8,180	8,229	33,616	24,503	9,514	5,512	4,993	3,497	3,008
1990	4,001	4,504	5,351	12,474	13,793	10,360	10,201	8,375	6,050	4,001	2,992	3,008
1991	5,448	3,496	3,545	4,830	11,416	26,053	15,966	8,245	5,882	4,001	2,992	3,008

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Table 1-2
Operation of Delta Facilities
under
Alternative DEFT1

Delta Cross Channel

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	X	X	X	X	X	X	X	X	X	O	O	O
1977	X	X	X	X	X	X	X	X	X	O	O	O
1978	X	X	X	X	X	X	X	X	X	O	O	O
1979	X	X	X	X	X	X	X	X	X	O	O	O
1980	X	X	X	X	X	X	X	X	X	O	O	O
1981	X	X	X	X	X	X	X	X	X	O	O	O
1982	X	X	X	X	X	X	X	X	X	O	O	O
1983	X	X	X	X	X	X	X	X	X	O	O	O
1984	X	X	X	X	X	X	X	X	X	O	O	O
1985	X	X	X	X	X	X	X	X	X	O	O	O
1986	X	X	X	X	X	X	X	X	X	O	O	O
1987	X	X	X	X	X	X	X	X	X	O	O	O
1988	X	X	X	X	X	X	X	X	X	O	O	O
1989	X	X	X	X	X	X	X	X	X	O	O	O
1990	X	X	X	X	X	X	X	X	X	O	O	O
1991	X	X	X	X	X	X	X	X	X	O	O	O

Note: 'X' denotes gates closed, 'O' denotes gates open

Suisun Marsh Salinity Control Gates

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	O	O	O	O	O	O	O	O	N	N	N	N
1977	O	O	O	O	O	O	O	O	N	N	N	N
1978	N	N	N	N	N	N	N	N	N	N	N	N
1979	O	O	O	O	O	O	O	O	N	N	N	N
1980	N	N	N	N	N	N	N	N	N	N	N	N
1981	O	O	O	O	O	O	O	O	N	N	N	N
1982	N	N	N	N	N	N	N	N	N	N	N	N
1983	N	N	N	N	N	N	N	N	N	N	N	N
1984	N	N	N	N	N	N	N	N	N	N	N	N
1985	O	O	O	O	O	O	O	O	N	N	N	N
1986	N	N	N	N	N	N	N	N	N	N	N	N
1987	O	O	O	O	O	O	O	O	N	N	N	N
1988	O	O	O	O	O	O	O	O	N	N	N	N
1989	O	O	O	O	O	O	O	O	N	N	N	N
1990	O	O	O	O	O	O	O	O	N	N	N	N
1991	O	O	O	O	O	O	O	O	N	N	N	N

Note: 'N' denotes gates not operating, 'O' denotes gates are operating

Table 1-2 (cont.)
Operation of Delta Facilities
under
Alternative DEFT1

South Delta Flow Control Structures

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr (1-15)	Apr (16-30)	May	Jun	Jul	Aug	Sep
1976	2	0	0	0	0	0	2	2	2	3B	3A	3A	3B
1977	2	0	0	0	0	0	2	2	2	3A	3B	3A	3A
1978	2	0	0	0	0	0	2	2	2	3C	3C	3B	3C
1979	2	0	0	0	0	0	2	2	2	3C	3B	3B	3B
1980	2	0	0	0	0	0	2	2	2	3C	3C	3B	3B
1981	2	0	0	0	0	0	2	2	2	3B	3B	3A	3B
1982	2	0	0	0	0	0	0	0	2	3C	3C	3C	3C
1983	2	0	0	0	0	0	0	0	0	0	3C	3C	3C
1984	2	0	0	0	0	0	2	2	2	3B	3B	3B	3B
1985	2	0	0	0	0	0	2	2	2	3B	3B	3A	3B
1986	2	0	0	0	0	0	2	2	2	3C	3B	3B	3B
1987	2	0	0	0	0	0	2	2	2	3B	3A	3A	3B
1988	2	0	0	0	0	0	2	2	2	3A	3A	3A	3A
1989	2	0	0	0	0	0	2	2	2	3A	3B	3A	3B
1990	2	0	0	0	0	0	2	2	2	3A	3A	3A	3B
1991	2	0	0	0	0	0	2	2	2	3A	3A	3A	3A

Note: '0' denotes no structures operating, '2' denotes Old River and middle River Operating, '3' denotes all three structures operating. 'A' -GLC with special operation, 'B' - GLC and Old River with special operation, C' - GLC, Old River and Middle River structures with special operation.

Head of Old River Fish Control Structure

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr (1-15)	Apr (16-30)	May	Jun	Jul	Aug	Sep
1976	O	O	N	N	N	N	N	O	O	N	N	N	N
1977	O	O	N	N	N	N	N	O	O	N	N	N	N
1978	O	O	N	N	N	N	N	N	N	N	N	N	N
1979	O	O	N	N	N	N	N	O	O	N	N	N	N
1980	O	O	N	N	N	N	N	O	N	N	N	N	N
1981	O	O	N	N	N	N	N	O	O	N	N	N	N
1982	O	O	N	N	N	N	N	N	N	N	N	N	N
1983	N	N	N	N	N	N	N	N	N	N	N	N	N
1984	O	N	N	N	N	N	N	O	O	N	N	N	N
1985	O	O	N	N	N	N	N	O	O	N	N	N	N
1986	O	O	N	N	N	N	N	N	N	N	N	N	N
1987	O	O	N	N	N	N	N	O	O	N	N	N	N
1988	O	O	N	N	N	N	N	O	O	N	N	N	N
1989	O	O	N	N	N	N	N	O	O	N	N	N	N
1990	O	O	N	N	N	N	N	O	O	N	N	N	N
1991	O	O	N	N	N	N	N	O	O	N	N	N	N

Note: 'N' denotes gates not operating, 'O' denotes gates are operating to make complete closure

Table 1-2 (cont.)
Operation of Delta Facilities
under
Alternative DEFT1

Clifton Court Forebay Intake Gate Priority

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	4	4	4	4	4	3	3	3	4	4	4	
1977	4	4	4	4	4	3	3	3	4	4	4	
1978	4	4	4	4	4	3	3	3	4	4	4	
1979	4	4	4	4	4	3	3	3	4	4	4	
1980	4	4	4	4	4	3	3	3	4	4	4	
1981	4	4	4	4	4	3	3	3	4	4	4	
1982	4	4	4	4	4	3	3	3	4	4	4	
1983	4	4	4	4	4	3	3	3	4	4	4	
1984	4	4	4	4	4	3	3	3	4	4	4	
1985	4	4	4	4	4	3	3	3	4	4	4	
1986	4	4	4	4	4	3	3	3	4	4	4	
1987	4	4	4	4	4	3	3	3	4	4	4	
1988	4	4	4	4	4	3	3	3	4	4	4	
1989	4	4	4	4	4	3	3	3	4	4	4	
1990	4	4	4	4	4	3	3	3	4	4	4	
1991	4	4	4	4	4	3	3	3	4	4	4	

Note: See Figure 8 in January 16,1998 Report for description of the values

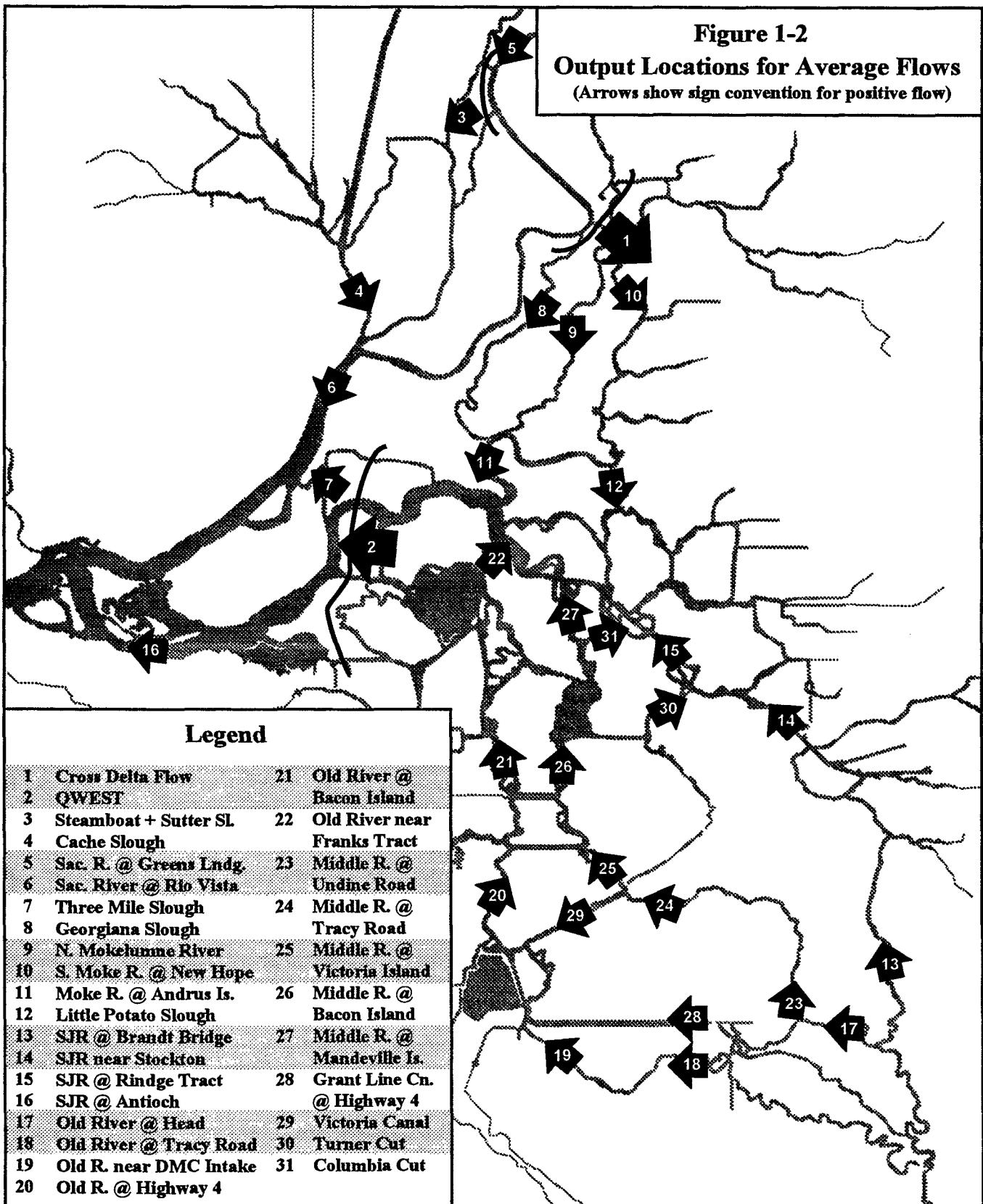


Table 3
Monthly Average Flow
(Values in cubic feet per second)

ALTERNATIVE DEFT1

Cross Delta

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	2991	2655	2465	2492	2824	2645	1534	1534	1806	2224	5114	7265	6520
1977	1913	1676	1590	1769	1738	1584	1596	1597	1492	2188	4473	3199	3994
1978	1134	1141	2246	5136	5267	4743	3805	3805	2510	2313	8133	6300	7874
1979	2374	2353	2222	3154	4342	3603	2474	2478	1982	2606	7904	8654	7687
1980	2425	2651	2970	5534	6940	3850	2625	2630	2253	2200	7778	5811	7532
1981	2254	2227	2562	3052	3479	3588	2509	2509	2054	2006	5345	8891	8055
1982	2126	3777	6957	5220	6624	6695	7058	7057	3774	2876	9098	7459	8465
1983	3085	4134	5552	5786	7929	8047	6583	6583	5254	5360	2819	8310	3228
1984	3034	6142	7968	4766	3885	3851	2323	2327	2240	2406	7956	9051	7992
1985	2449	3839	3138	2612	2742	2663	2085	2085	1876	2134	5557	8842	8176
1986	2024	2054	2673	3186	9512	6992	2726	2726	2080	1884	9434	7578	7509
1987	2364	2097	2290	2581	2955	3243	1841	1840	1836	2149	5319	8873	7532
1988	1828	1553	2587	3441	2370	2442	1648	1648	1768	2214	5451	6563	4063
1989	1556	1785	1811	2373	1857	4490	3122	3122	2075	2086	5751	9055	7524
1990	2331	2093	2025	2950	2526	2324	2020	2021	1803	2234	5531	5179	5363
1991	1925	1637	1481	1656	2102	3550	2478	2478	1837	2031	5347	4406	4525
Avg	2238	2613	3158	3482	4193	4019	2902	2903	2290	2432	6313	7215	6627

QWEST

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	-7986	-6150	-3308	-3882	-1903	-1753	585	591	-270	-3459	1278	-4029	-3194
1977	-1764	-2467	-975	-1861	-54	-1035	1381	1383	-719	-2345	1365	1098	-335
1978	1470	-485	-594	-2748	999	13074	17898	17899	10657	1288	-642	-679	-5042
1979	-5437	-4711	-1811	-1599	8818	6041	7387	7399	5723	-2904	-1281	-5344	-4351
1980	-6273	-5778	-4335	20754	29340	15442	7719	7702	7201	1973	-196	-582	-4628
1981	-4706	-4128	-3205	-2477	-263	-640	4413	4427	2343	-2957	1391	-5885	-5148
1982	-4066	-8836	-2455	10750	23264	19012	42056	42093	19689	3111	-2674	-2306	-986
1983	-2163	3957	26802	37797	55826	61273	29166	29166	27732	27959	9573	37	3976
1984	6963	22406	34287	19365	10598	3588	6588	6603	5424	-2390	-75	-5287	-4926
1985	-6818	-8461	-4445	-1236	-16	-893	3745	3719	2414	-2837	1254	-5848	-5577
1986	-3361	-3457	-3466	-3030	27666	33036	10758	10758	8064	3360	-3118	-2002	-4826
1987	-5717	-3702	-2566	-3693	-1296	-2436	1764	1768	414	-3154	1319	-5781	-4109
1988	-2522	-1172	-3551	-8937	-1194	-1054	636	639	-128	-3615	516	-2325	-28
1989	29	-3093	-1702	-3256	552	-5171	2251	2258	23	-3304	1127	-5708	-4743
1990	-5725	-3969	-1890	-5547	-1282	-1160	1741	1744	-927	-3615	331	-786	-1482
1991	-2272	-2399	-1767	-1587	1490	-1628	2349	2357	488	-2181	-656	-790	-783
Avg	-3147	-2028	1563	3050	9533	8481	8777	8782	5508	307	594	-2888	-2886

Department of Water Resources, Delta Modeling Section

Table 3
Monthly Average Flow
(Values in cubic feet per second)

ALTERNATIVE DEFT1

Steamboat+Sutter Slough

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	9923	7464	6591	6677	9383	8030	3388	3388	4101	5445	3055	4542	3878
1977	4222	3352	3233	3682	3804	3252	3600	3599	3086	5400	2610	1796	2121
1978	2420	2158	5303	24866	26060	23538	18899	18899	9201	6555	6351	3848	5242
1979	5838	5787	5357	12177	21280	16527	8523	8521	5561	7735	5865	6529	5155
1980	5932	7304	9890	28445	37286	18360	9515	9511	7046	6125	5873	3572	5030
1981	5322	5221	7139	11200	14856	15676	8171	8171	5335	4570	3265	6745	5501
1982	4734	15908	35936	26320	35454	35979	39037	39037	18989	10790	7862	5231	6975
1983	11459	19557	29447	31290	44093	43316	35698	35698	28102	28596	11446	6959	13783
1984	12494	32705	43846	24235	18681	17780	7340	7338	6672	6569	6116	7249	5549
1985	5966	16587	11678	7823	9026	8332	5692	5692	4654	5102	3380	6672	5617
1986	4387	4436	7705	12004	52197	37532	10795	10795	6278	4981	8334	5360	4918
1987	5754	4699	5698	7262	10551	12876	4447	4448	4287	5138	3233	6720	4883
1988	3825	3131	7192	13558	6349	6788	3669	3669	3969	5389	3234	3960	2210
1989	3292	3597	3802	6032	4190	21082	12619	12619	5140	4855	3564	7047	4779
1990	5551	4636	4506	9729	7217	6121	5084	5084	4027	5457	3270	2942	2981
1991	4211	3234	2883	3368	5313	15133	7601	7601	4261	4773	3067	2358	1465
Avg	5958	8736	11888	14292	19109	18145	11505	11504	7544	7342	5033	5096	5068

Cache Slough

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	2774	1974	1852	1767	2350	2142	431	431	393	861	598	1451	1100
1977	1120	844	919	1042	938	705	931	931	915	1037	514	390	509
1978	656	745	3381	21824	14754	23451	6104	6105	2136	1382	1645	934	1393
1979	1574	1572	1799	4647	6693	4784	2093	2093	1023	1616	1395	1613	1405
1980	1590	2254	4344	40414	54126	20105	2439	2440	1823	1462	1524	986	1297
1981	1416	1422	2288	3531	4815	4398	1921	1922	871	798	628	1776	1487
1982	1364	7957	34244	28316	32898	15486	47094	47092	5342	2549	1961	1324	1884
1983	3514	7206	19750	30590	72038	125414	25188	25188	10621	8405	2835	1754	3813
1984	3608	15108	58845	21861	6054	5330	1649	1649	1370	1253	1348	1758	1476
1985	3094	5706	3429	2326	2799	2164	1251	1250	815	872	559	1694	1488
1986	1198	1479	3154	4801	104179	65576	3772	3772	1343	864	2013	1306	1233
1987	1495	1235	1661	2168	3145	3799	887	887	562	809	528	1704	1300
1988	1019	981	2845	5066	1646	1804	766	766	657	811	439	870	514
1989	900	1008	1236	1759	1363	6314	3346	3346	937	665	565	1933	1277
1990	1476	1239	1452	3209	2629	1517	1374	1374	503	847	465	555	697
1991	1089	771	768	967	1537	5299	2011	2011	939	1026	201	239	465
Avg	1743	3219	8873	10893	19498	18018	6329	6329	1891	1578	1076	1268	1334

Department of Water Resources, Delta Modeling Section

Table 3
Monthly Average Flow
(values in cubic feet per second)

ALTERNATIVE DEFT1

Sac R. @ Greens Landing

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	20771	16294	14577	14757	19776	17300	7904	7904	9468	12302	10415	14805	13055
1977	9715	7904	7630	8607	8807	7661	8306	8306	7304	12182	9056	6418	7699
1978	5738	5257	12246	48583	50772	45890	37026	37026	19254	14442	18546	12831	16465
1979	13094	12985	12150	24668	41659	32616	18035	18036	12313	16808	17567	19184	16175
1980	13309	16049	20814	55148	71114	36082	19842	19841	15254	13551	17493	11941	15848
1981	12036	11827	15694	22918	29513	31061	17450	17450	11964	10515	11015	19697	17028
1982	10842	31662	69009	51112	67928	68841	74192	74192	37183	22176	21657	16144	19774
1983	23398	38469	56885	60210	83440	81967	68217	68217	54256	55223	23182	19650	27386
1984	25033	62902	82949	47138	36691	35046	15830	15831	14581	14550	18031	20636	17069
1985	13401	32905	23766	16912	19108	17839	12606	12606	10533	11604	11398	19542	17316
1986	10112	10256	16827	24522	97966	71540	22042	22042	13706	11175	22625	16454	15641
1987	12929	10751	12783	15882	21776	25839	10106	10106	9824	11666	10929	19648	15592
1988	8907	7400	15844	27162	14053	14906	8491	8491	9165	12194	11054	13244	7930
1989	7695	8447	8867	13459	9657	41422	25317	25317	11590	11093	11896	20287	15402
1990	12525	10632	10387	20464	15755	13586	11411	11411	9307	12334	11179	10255	10477
1991	9715	7652	6873	7935	11918	30154	16413	16413	9748	10867	10674	8520	8813
Avg	13076	18212	24206	28717	37496	35734	23324	23324	15966	15793	14795	15579	15104

Sac R. @ Rio Vista

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	17608	13363	12049	12051	16461	14382	5486	5485	6439	8998	4867	7543	6377
1977	7603	5989	6018	6762	6820	5700	6493	6492	5553	9145	4129	2975	3482
1978	4471	4161	12456	58396	53078	57893	33755	33755	16008	11295	9986	6213	8328
1979	10518	10422	10341	22966	37929	28980	15067	15064	9451	13251	9137	10086	8297
1980	10674	13569	19713	82390	107755	47047	16802	16800	12599	10730	9325	5951	8029
1981	9560	9408	13439	20144	26584	27261	14333	14335	8882	7609	5131	10481	8757
1982	8650	31370	86581	66771	84520	67421	103036	103033	33066	18422	12015	8374	11062
1983	20530	35959	63133	76595	135738	187405	76573	76573	51354	49742	19686	10936	23892
1984	21937	62720	121509	57341	33416	31313	12828	12824	11492	11135	9412	11037	8828
1985	12281	29973	20764	14403	16647	14861	9954	9951	7853	8516	5205	10318	8881
1986	7934	8342	15297	23364	178294	119495	19857	19857	10941	8380	12554	8489	7800
1987	10294	8421	10509	13385	18921	22561	7636	7636	6959	8494	5000	10377	7828
1988	6898	5854	14228	24841	11377	12228	6370	6370	6638	8851	4847	6234	3626
1989	5997	6526	7209	11097	7978	37093	21702	21702	8694	7891	5451	11025	7670
1990	9986	8332	8580	18016	13731	10908	9185	9184	6524	8990	4917	4606	4810
1991	7533	5739	5221	6250	9745	27649	13665	13665	7454	8333	4269	3448	3890
Avg	10780	16259	26690	32173	47437	44512	23296	23295	13119	12486	7871	8006	8222

Department of Water Resources, Delta Modeling Section

Table 3
Monthly Average Flow
(Values in cubic feet per second)

ALTERNATIVE DEFT1

Three Mile Slough

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	-3515	-3050	-2538	-2633	-2533	-2419	-1643	-1634	-1827	-2475	-1426	-2397	-2202
1977	-2066	-2116	-1884	-2061	-1792	-1903	-1540	-1537	-1841	-2294	-1404	-1381	-1617
1978	-1453	-1746	-2084	-4107	-3297	-1573	9	9	-554	-1812	-1989	-1801	-2599
1979	-2785	-2678	-2203	-2685	-1528	-1681	-1005	-993	-995	-2581	-2047	-2742	-2483
1980	-2951	-3014	-3028	-1229	-918	-836	-1045	-1040	-924	-1670	-1881	-1766	-2513
1981	-2620	-2536	-2581	-2747	-2604	-2687	-1446	-1434	-1515	-2330	-1437	-2844	-2635
1982	-2503	-4130	-5203	-2258	-897	-938	1377	1384	314	-1824	-2406	-2161	-2080
1983	-2719	-2242	486	1750	2035	-1201	331	332	976	1070	-843	-1914	-1851
1984	-1316	-228	-767	-539	-1125	-2167	-1048	-1037	-1169	-2401	-1871	-2782	-2603
1985	-3074	-3998	-3072	-2319	-2222	-2301	-1337	-1334	-1450	-2352	-1461	-2830	-2712
1986	-2357	-2396	-2716	-2928	-6132	-879	-678	-678	-705	-1337	-2512	-2119	-2536
1987	-2823	-2422	-2342	-2660	-2520	-2826	-1546	-1538	-1735	-2401	-1439	-2822	-2424
1988	-2157	-1907	-2662	-3922	-2189	-2208	-1662	-1658	-1801	-2497	-1571	-2061	-1580
1989	-1720	-2237	-2049	-2483	-1739	-3721	-2073	-2066	-1875	-2392	-1494	-2837	-2516
1990	-2812	-2464	-2141	-3152	-2297	-2160	-1611	-1606	-1928	-2493	-1590	-1733	-1858
1991	-2158	-2100	-1982	-1998	-1684	-2848	-1741	-1733	-1731	-2212	-1728	-1701	-1712
Avg	-2439	-2454	-2298	-2248	-1965	-2022	-1041	-1035	-1172	-2000	-1694	-2243	-2245

Georgiana Slough

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	2983	2646	2462	2485	2816	2637	1511	1512	1774	2197	1374	1781	1665
1977	1906	1668	1587	1763	1733	1574	1588	1589	1474	2163	1239	991	1144
1978	1127	1133	2269	5143	5278	4743	3798	3798	2496	2289	2007	1584	1904
1979	2367	2345	2226	3165	4343	3599	2465	2469	1965	2581	1928	2085	1886
1980	2418	2646	2983	5549	6937	3845	2617	2622	2242	2177	1915	1549	1873
1981	2247	2219	2560	3048	3477	3581	2496	2496	2032	1980	1418	2118	1945
1982	2119	3779	6974	5220	6638	6691	7047	7046	3760	2853	2204	1865	2078
1983	3080	4133	5566	5802	7950	8048	6576	6576	5240	5335	2806	2063	3221
1984	3027	6139	7966	4766	3879	3844	2306	2310	2221	2380	1941	2169	1952
1985	2442	3834	3141	2612	2745	2657	2073	2073	1859	2109	1436	2108	1968
1986	2017	2046	2679	3208	9518	6986	2717	2717	2068	1860	2259	1874	1857
1987	2356	2089	2287	2578	2952	3236	1827	1826	1813	2123	1412	2114	1836
1988	1821	1545	2592	3437	2362	2436	1636	1636	1751	2185	1414	1642	1168
1989	1549	1777	1809	2369	1855	4484	3111	3111	2058	2058	1484	2155	1832
1990	2324	2084	2025	2950	2521	2318	2012	2013	1786	2206	1430	1403	1426
1991	1918	1629	1473	1653	2094	3548	2472	2472	1829	2025	1401	1220	1268
Avg	2231	2607	3162	3484	4194	4014	2891	2892	2273	2408	1729	1795	1814

Department of Water Resources, Delta Modeling Section

Table 3
Monthly Average Flow
(Values in cubic feet per second)

ALTERNATIVE DEFT1

North Mokelumne R.

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	84	104	94	50	14	45	-78	-67	-179	-205	2738	4089	3592
1977	55	35	78	45	-25	-88	71	79	-133	-179	2304	1558	2041
1978	48	63	306	1533	1066	1225	1219	1219	372	20	4580	3526	4491
1979	7	40	101	608	1349	1194	631	650	611	145	4744	5242	4661
1980	11	86	319	4393	3890	1188	564	581	840	568	4898	3668	4797
1981	69	65	122	228	189	639	147	164	-82	-193	2849	5138	4641
1982	31	310	917	3985	5160	3922	8250	8250	2391	793	5880	4898	5629
1983	265	1370	4888	5435	8131	10877	2977	2977	4408	2554	925	5760	903
1984	340	3619	6264	2161	1788	952	552	571	548	231	4807	5494	4891
1985	90	393	215	161	486	297	272	285	-22	-198	3009	5117	4692
1986	22	100	235	956	11240	4719	933	933	827	538	5848	4735	4638
1987	46	117	152	102	178	352	-13	-2	-143	-197	2833	5112	4293
1988	14	178	145	79	7	-57	-89	-82	-141	-229	2904	3640	2083
1989	4	14	49	-29	125	510	16	24	0	-115	3123	5266	4239
1990	-64	-7	49	88	107	115	66	73	-130	-215	2952	2711	2879
1991	-59	-62	-16	-7	24	584	-48	-38	-71	-123	2740	2217	2312
Avg	60	401	870	1237	2108	1655	967	976	568	199	3571	4261	3799

S Moke R. @ New Hope Is.

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	258	250	217	207	216	213	45	34	22	89	1027	1404	1283
1977	118	103	118	125	86	55	105	97	16	76	897	676	847
1978	43	64	253	1060	814	789	693	693	257	141	1517	1239	1509
1979	152	181	183	486	844	757	415	396	364	293	1585	1729	1579
1980	179	235	348	2048	1903	693	388	369	479	415	1649	1340	1647
1981	164	179	234	329	314	562	199	182	46	69	1053	1673	1552
1982	139	433	898	1976	2335	1965	3254	3254	1216	565	1925	1675	1855
1983	301	868	2153	2304	3154	4021	1546	1545	2034	1285	549	1916	626
1984	252	1768	2713	1156	1013	694	375	357	357	318	1596	1795	1641
1985	218	484	336	248	409	333	239	225	64	74	1093	1666	1560
1986	126	175	285	600	4192	2173	546	546	447	358	1893	1602	1590
1987	179	191	225	229	283	417	88	77	29	81	1050	1664	1457
1988	104	152	238	327	164	135	37	30	27	70	1065	1279	861
1989	62	110	126	146	145	599	213	205	128	112	1119	1702	1440
1990	131	134	143	262	221	218	135	128	49	75	1089	1061	1092
1991	82	57	73	86	123	514	117	108	58	83	1044	907	939
Avg	157	336	534	724	1013	884	525	515	350	257	1260	1458	1342

Department of Water Resources, Delta Modeling Section

Table 3
Monthly Average Flow
(Values in cubic feet per second)

ALTERNATIVE DEFT1

Moke R. @ Andrus Is.

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	1990	1773	1704	1646	1887	1797	910	961	963	1101	3024	4283	3801
1977	1353	1128	1147	1197	1158	941	1186	1221	821	1153	2546	1831	2275
1978	861	814	1972	4867	4731	4800	4276	4276	2382	1563	4905	3759	4673
1979	1570	1544	1612	2792	4492	3732	2490	2586	2085	1696	4955	5405	4829
1980	1535	1781	2344	8261	9029	4223	2555	2648	2564	1976	5136	3853	4928
1981	1568	1492	1810	2243	2601	2993	1988	2067	1393	973	3108	5336	4829
1982	1401	2719	5697	7277	9746	8549	12984	12985	5239	2697	6090	5073	5903
1983	2400	4230	8953	9908	14207	16552	8025	8025	8153	6813	3077	5996	3144
1984	2737	8090	11830	5809	4561	3584	2257	2352	2189	1639	5044	5663	5051
1985	1616	2807	2274	1935	2361	2056	1765	1828	1335	1074	3248	5316	4869
1986	1336	1418	2035	3189	17018	9853	3040	3040	2467	1776	6066	4937	4768
1987	1566	1453	1655	1783	2186	2449	1268	1319	1090	1074	3099	5311	4484
1988	1207	1197	1887	2199	1590	1599	1040	1072	1043	1068	3114	3832	2337
1989	1079	1150	1257	1529	1436	3367	2212	2246	1379	1084	3364	5483	4421
1990	1403	1322	1414	2007	1797	1651	1494	1523	1040	1092	3159	2962	3093
1991	1207	996	926	1097	1507	2938	1742	1783	1217	1187	2878	2403	2552
Avg	1552	2120	3032	3609	5019	4443	3077	3121	2210	1748	3926	4465	4122

Little Potato Slough

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	1256	1143	1054	1037	1037	993	294	243	238	608	1991	2902	2650
1977	655	597	631	692	550	457	489	455	265	576	1707	1301	1669
1978	286	372	1195	3036	2629	1982	1322	1322	525	559	3000	2497	3140
1979	883	938	948	1677	2084	1762	891	799	581	981	3113	3532	3228
1980	1004	1141	1554	3964	3666	1442	898	807	820	870	3144	2606	3306
1981	834	890	1117	1330	1416	1703	695	617	277	508	2017	3490	3246
1982	848	1880	3394	3951	4640	4012	5419	5417	1924	1191	3734	3288	3589
1983	1284	2193	4004	3922	5404	6424	2972	2972	3313	2008	1004	3648	1524
1984	852	3642	5117	2283	2065	1811	774	684	659	920	3094	3643	3361
1985	1094	1895	1460	1085	1328	1138	660	596	315	560	2106	3482	3273
1986	766	838	1311	2151	8087	3980	1042	1042	677	648	3748	3185	3223
1987	932	863	1006	1125	1238	1444	459	408	297	584	2023	3475	3024
1988	663	645	1215	1611	853	841	402	369	361	574	2042	2605	1687
1989	466	676	732	938	730	2135	980	946	575	594	2165	3577	3020
1990	920	807	831	1348	997	903	641	613	416	594	2092	2086	2208
1991	637	541	522	624	680	1759	705	664	460	625	1948	1742	1854
Avg	836	1191	1631	1923	2338	2049	1165	1122	731	775	2433	2941	2750

Department of Water Resources, Delta Modeling Section

Table 3
Monthly Average Flow
(Values in cubic feet per second)

ALTERNATIVE DEFT1

SJR @ Brandt Bridge

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	4051	1857	240	163	329	281	923	2971	2912	193	700	554	320
1977	2808	2121	372	236	253	208	651	1934	1788	549	131	518	624
1978	1250	1282	198	517	2560	4379	6558	6558	4732	3320	855	559	762
1979	4203	1926	264	928	3566	3417	2843	6844	6769	368	371	305	488
1980	1835	1689	162	4985	9227	6145	2950	6869	7010	3370	1419	529	884
1981	4799	1872	205	282	473	575	2158	5516	5438	299	335	448	271
1982	1691	1677	-36	1899	6446	6655	12506	12506	7136	4986	1517	833	2273
1983	3585	3612	8669	11626	17956	20390	9484	9484	8930	17529	8117	963	3665
1984	7643	6125	9829	6690	4170	2116	2894	6799	6238	673	436	362	565
1985	1940	1864	136	254	365	376	1553	4272	4246	354	338	460	252
1986	1657	1640	160	38	6491	10774	3969	3969	8172	4222	358	491	560
1987	3407	1807	245	157	290	230	968	3021	2946	235	359	424	280
1988	1359	1320	63	-175	200	186	618	1858	1798	463	464	373	719
1989	1254	1163	195	113	277	-52	595	1888	1513	481	190	260	231
1990	1218	1196	181	-52	185	206	599	1699	1272	441	344	428	320
1991	1136	1157	226	180	251	279	766	2338	1724	546	242	221	462
Avg	2740	2019	1319	1740	3315	3510	3127	4908	4539	2377	1011	483	792

SJR near Stockton

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	4020	1824	233	138	263	226	797	2844	2740	40	635	518	286
1977	2782	2093	381	227	203	127	613	1895	1666	413	43	470	586
1978	1225	1274	315	597	2649	4403	6490	6490	4631	3198	764	513	721
1979	4177	1897	294	994	3585	3381	2763	6765	6645	239	285	250	459
1980	1812	1673	256	5099	9210	6107	2886	6804	6919	3251	1335	483	846
1981	4770	1844	264	270	502	532	2071	5429	5296	159	246	395	243
1982	1678	1686	88	1930	6603	6663	12426	12426	7046	4865	1433	801	2244
1983	3616	3637	8810	11750	18140	20400	9423	9424	8827	17396	8025	915	3631
1984	7654	6195	9837	6702	4133	2053	2791	6696	6115	533	342	294	534
1985	1931	1850	151	251	363	323	1468	4187	4136	222	254	411	220
1986	1647	1644	210	234	6575	10752	3903	3903	8077	4097	272	448	518
1987	3374	1779	255	180	271	163	881	2935	2807	92	277	373	246
1988	1339	1306	111	-185	146	153	550	1790	1695	305	358	314	680
1989	1231	1147	201	118	309	-105	518	1812	1406	325	96	234	206
1990	1202	1168	193	-31	148	151	560	1660	1150	284	241	369	274
1991	1091	1123	198	182	240	343	712	2285	1646	440	89	124	407
Avg	2722	2009	1362	1778	3334	3479	3053	4834	4425	2241	918	432	756

Department of Water Resources, Delta Modeling Section

Table 3
Monthly Average Flow
(Values in cubic feet per second)

ALTERNATIVE DEFT1

SJR @ Rindge Tract

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr		May	Jun	Jul	Aug	Sep
							1-15	16-30					
1976	2072	600	-336	-459	-222	-228	526	2056	1871	-532	62	-644	-708
1977	1757	1204	58	-150	6	-109	435	1388	1056	-145	-308	105	-17
1978	936	804	-48	-436	1484	3855	5911	5911	4114	2209	-262	-316	-649
1979	2489	805	-153	241	2902	2586	2395	5454	5266	-422	-702	-1126	-806
1980	600	506	-462	4584	8359	5446	2507	5501	5545	2246	179	-349	-550
1981	3003	822	-304	-317	40	-55	1687	4241	4027	-371	-238	-1054	-1035
1982	696	125	-881	1399	5787	5577	11357	11360	6335	3500	-95	-404	711
1983	2225	2540	7879	10974	16667	18267	8673	8673	8040	14677	6494	-239	2583
1984	6079	5594	8865	6024	3441	1371	2376	5362	4810	-145	-565	-1125	-829
1985	634	268	-568	-166	-47	-116	1203	3250	3151	-326	-266	-1034	-1097
1986	760	744	-395	-443	5094	9747	3479	3479	6530	3047	-1009	-625	-793
1987	1849	811	-247	-415	-200	-418	657	2192	1983	-459	-221	-1055	-900
1988	613	710	-458	-1214	-207	-187	342	1261	1112	-337	-235	-612	73
1989	781	430	-158	-391	136	-992	297	1258	857	-298	-413	-1181	-977
1990	197	338	-202	-745	-238	-209	387	1201	631	-358	-343	-294	-476
1991	450	193	-136	-141	127	-249	523	1695	1120	-107	-531	-425	-232
Avg	1571	1050	778	1146	2695	2767	2672	4018	3528	1386	96	-649	-356

SJR @ JERSEY POINT

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr		May	Jun	Jul	Aug	Sep
							1-15	16-30					
1976	-4132	-2833	-611	-1067	710	739	2184	2186	1529	-881	2651	-1451	-846
1977	388	-232	978	297	1753	914	2870	2872	1135	8	2701	2432	1297
1978	2873	1298	1616	1518	4307	14104	17134	17135	10742	3017	1369	1156	-2217
1979	-2410	-1824	511	1214	10004	7484	8077	8089	6465	-242	815	-2370	-1663
1980	-3049	-2503	-1067	21181	29009	15634	8436	8426	7823	3535	1696	1216	-1903
1981	-1877	-1405	-460	387	2372	2076	5664	5674	3729	-547	2758	-2784	-2280
1982	-1378	-4309	2907	12575	23249	19168	38914	38943	18543	4783	-152	-30	1159
1983	662	6072	25306	34568	51552	59848	27606	27606	25598	25710	10020	1967	5673
1984	8008	21736	33608	19116	11293	5607	7348	7362	6347	68	1792	-2281	-2098
1985	-3441	-1090	-1157	1156	2233	1446	4920	4898	3745	-407	2653	-2763	-2614
1986	-851	-899	-565	133	32554	32493	10979	10980	8432	4533	-476	214	-2071
1987	-2644	-1109	-89	-856	1291	491	3230	3231	2108	-659	2697	-2704	-1494
1988	-246	802	-704	-4630	1048	1203	2269	2270	1661	-1011	2051	-165	1557
1989	1762	-711	445	-616	2291	-1231	4221	4223	1882	-817	2565	-2612	-2005
1990	-2662	-1325	360	-2140	1077	1052	3282	3282	1020	-1016	1893	978	444
1991	-17	-187	302	502	3130	1309	3988	3993	2201	121	1066	930	959
Avg	-563	529	3836	5208	11117	10146	9445	9448	6435	2262	2256	-516	-506

Department of Water Resources, Delta Modeling Section

Table 3
Monthly Average Flow
(Values in cubic feet per second)

ALTERNATIVE DEFT1

SJR @ Antioch

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	-4606	-3238	-894	-1379	433	472	1935	1932	1229	-1279	2482	-1812	-1172
1977	149	-503	787	56	1559	654	2738	2737	860	-330	2516	2269	1083
1978	2755	1113	1571	1378	4287	14469	17599	17600	10910	2799	1090	909	-2623
1979	-2787	-2181	324	1058	10194	7535	8138	8140	6404	-620	516	-2804	-2020
1980	-3449	-2870	-1316	21978	30029	16051	8530	8507	7852	3337	1436	974	-2301
1981	-2240	-1732	-710	146	2223	1855	5602	5606	3527	-941	2560	-3227	-2683
1982	-1690	-4773	2894	12868	24088	19730	40304	40333	19051	4631	-507	-336	917
1983	455	6110	26332	35975	53735	62210	28529	28528	26397	26488	10118	1737	5627
1984	8124	22480	34834	19732	11507	5542	7354	7358	6282	-301	1531	-2730	-2494
1985	-3849	-4557	-1452	963	2093	1215	4835	4804	3580	-786	2455	-3205	-3027
1986	-1139	-1190	-808	11	33728	33650	11178	11178	8486	4381	-845	-82	-2466
1987	-3039	-1424	-337	-1138	1083	199	3060	3056	1853	-1038	2513	-3128	-1848
1988	-508	588	-961	-5120	794	981	2077	2076	1418	-1418	1818	-477	1357
1989	1596	-994	234	-889	2148	-1608	4091	4091	1637	-1209	2366	-3014	-2365
1990	-3042	-1650	147	-2486	854	807	3164	3162	723	-1419	1657	727	178
1991	-304	-461	61	279	3019	1113	3882	3884	2006	-167	772	663	714
Avg	-848	294	3794	5214	11361	10305	9564	9562	6389	2007	2030	-846	-820

Old R. @ Head

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	0	0	1587	1376	1585	1319	2047	0	0	842	475	724	885
1977	0	0	1336	991	856	780	1283	0	0	483	607	135	315
1978	0	0	1250	2745	4684	6269	8421	8421	6358	3682	1930	1125	1867
1979	0	0	1517	3038	5407	5284	4001	0	0	1334	1134	1239	1280
1980	0	0	1735	6554	11006	7888	3920	0	0	3610	2295	1069	1726
1981	0	0	1513	1866	2025	2338	3356	0	0	940	829	891	1053
1982	0	0	1747	3489	8241	8546	14084	14085	8578	5027	2514	1827	2851
1983	5187	5394	10497	13246	18715	20746	11251	11251	10740	18648	7368	1985	3768
1984	0	7827	11589	8436	5758	3740	3905	0	0	1387	1143	1362	1418
1985	0	0	1708	1337	1647	1684	2719	0	0	953	830	902	1069
1986	0	0	1518	1709	8951	13398	5364	5364	0	4342	1280	1204	1427
1987	0	0	1403	1407	1582	1576	2053	0	0	863	836	869	984
1988	0	0	1176	1359	950	936	1240	0	0	540	377	388	433
1989	0	0	1039	1022	909	1467	1293	0	0	518	688	586	942
1990	0	0	960	1120	930	958	1100	0	0	484	199	266	784
1991	0	0	889	808	681	1954	1572	0	0	444	242	34	240
Avg	324	826	2591	3156	4620	4930	4226	2445	1605	2756	1422	913	1315

Department of Water Resources, Delta Modeling Section

Table 3
Monthly Average Flow
(Values in cubic feet per second)

ALTERNATIVE DEFT1

Old R. @ Tracy Rd.

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	-535	81	341	281	319	251	-486	-636	-610	328	-500	-271	341
1977	-620	29	277	222	133	122	-635	-703	-638	-504	281	-647	-546
1978	-751	-8	177	572	771	982	-101	-101	-229	1002	518	424	506
1979	-508	25	165	536	835	831	-368	-684	-651	343	416	440	445
1980	-531	117	429	1052	1847	1249	-413	-698	-679	981	623	409	563
1981	-500	56	345	261	412	452	-382	-650	-615	341	328	-158	382
1982	-585	126	402	641	1329	1357	2423	2464	-72	1391	688	500	768
1983	-243	853	1788	2334	3595	3978	1882	1883	1745	3311	2083	546	1033
1984	-700	1225	1978	1376	912	618	-355	-668	-663	464	417	473	480
1985	-576	110	370	152	275	262	-434	-666	-655	346	329	-157	388
1986	-614	71	344	329	1478	2340	-315	-315	-678	1193	438	436	484
1987	-504	50	289	307	236	310	-507	-659	-625	335	338	-166	368
1988	-634	56	199	318	161	95	-553	-668	-644	-486	-550	-413	-517
1989	-697	127	103	209	144	360	-598	-675	-643	-487	298	-248	354
1990	-605	54	183	235	158	171	-605	-703	-625	-490	-585	-488	319
1991	-638	54	144	144	63	282	-584	-693	-660	-509	-587	-634	-557
Avg	-578	189	471	561	792	854	-127	-261	-434	472	283	2	300

Old R. near DMC

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	-555	64	318	245	184	159	-661	-810	-837	125	-596	-312	322
1977	-634	15	271	202	28	1	-683	-751	-803	-683	156	-709	-576
1978	-763	-18	206	605	828	980	-194	-194	-372	847	398	365	470
1979	-519	11	171	541	836	796	-485	-801	-826	181	301	369	430
1980	-543	108	447	1108	1829	1197	-511	-797	-814	834	512	351	533
1981	-514	43	348	249	400	384	-520	-788	-813	163	211	-226	364
1982	-589	126	454	639	1391	1354	2291	2364	-200	1240	575	467	751
1983	-227	867	1907	2407	3741	3978	1801	1801	1595	3143	1962	485	1009
1984	-699	1272	1974	1374	873	531	-508	-820	-827	287	293	384	462
1985	-579	102	366	141	256	186	-566	-800	-809	180	216	-220	363
1986	-620	63	349	456	1530	2313	-411	-411	-816	1036	325	382	445
1987	-530	35	280	302	190	205	-642	-795	-824	143	222	-233	342
1988	-647	49	202	303	88	32	-661	-776	-803	-699	-700	-491	-550
1989	-709	117	92	198	130	283	-722	-799	-806	-695	167	-273	336
1990	-618	41	178	226	94	83	-651	-749	-816	-701	-729	-568	273
1991	-683	27	131	131	45	269	-662	-771	-785	-666	-793	-769	-630
Avg	-589	183	481	570	778	797	-237	-368	-597	296	157	-62	271

Department of Water Resources, Delta Modeling Section

Table 3
Monthly Average Flow
(Values in cubic feet per second)

ALTERNATIVE DEFT1

Old R. @ Highway 4

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr		May	Jun	Jul	Aug	Sep
							1-15	16-30					
1976	-10789	-7611	-4446	-4636	-3289	-2908	-47	-1524	-1721	-2540	-2416	-8129	-6713
1977	-4302	-4198	-2155	-2671	-1040	-1253	-144	-1080	-1492	-2132	-1236	-1185	-2948
1978	-161	-1824	-3675	-8738	-7077	1339	4800	4801	3125	-2082	-6066	-4745	-9617
1979	-8435	-6260	-3446	-5475	-1027	-1886	1557	-1314	-1551	-3227	-6167	-10035	-9026
1980	-7369	-7365	-6600	1706	5290	2779	1574	-1246	-1397	-2135	-6506	-4813	-9603
1981	-8267	-5744	-4680	-4455	-3478	-3919	479	-1932	-2196	-2152	-1979	-10503	-9426
1982	-5450	-11025	-9477	-1753	872	-196	8302	8337	4775	-3356	-9616	-7971	-9109
1983	-6905	-4603	2499	7812	11391	12055	6501	6500	5922	1701	-1400	-7188	-2851
1984	-2743	2910	5189	3158	51	-2412	1359	-1442	-1525	-2815	-5323	-10219	-9773
1985	-8076	-10834	-6089	-3151	-2913	-2819	589	-1378	-1480	-2276	-2279	-10483	-9782
1986	-4779	-5100	-5288	-7332	-3482	5995	2604	2604	-1408	-1466	-8898	-7122	-9316
1987	-8050	-5321	-3894	-4864	-3477	-4283	104	-1378	-1614	-2362	-2100	-10426	-8213
1988	-3734	-2838	-5060	-9093	-2395	-2317	-365	-1265	-1454	-2770	-2648	-5909	-2877
1989	-1543	-4085	-2745	-4146	-1385	-7387	-387	-1326	-1482	-2594	-2338	-10577	-8655
1990	-6345	-4944	-3099	-6501	-2803	-2325	-257	-1058	-1561	-2810	-2756	-3839	-4526
1991	-3193	-3290	-2132	-2401	-464	-4851	-20	-1158	-1317	-2360	-2755	-2766	-3400
Avg	-5634	-5133	-3443	-3283	-951	-899	1665	383	-398	-2211	-4030	-7244	-7240

Old R. @ Bacon Is.

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr		May	Jun	Jul	Aug	Sep
							1-15	16-30					
1976	-6738	-4745	-2748	-2891	-2086	-1862	-185	-1099	-1259	-1757	-1573	-5062	-4220
1977	-2696	-2613	-1305	-1652	-675	-845	-160	-739	-1075	-1476	-878	-806	-1880
1978	-151	-1137	-2171	-5284	-4218	976	2993	2993	1891	-1302	-3790	-3005	-5922
1979	-5263	-3903	-2104	-3330	-506	-1081	888	-897	-1085	-2090	-3937	-6282	-5626
1980	-4614	-4581	-4031	1328	3565	1882	915	-839	-951	-1336	-4039	-3045	-5973
1981	-5153	-3580	-2874	-2747	-2119	-2445	187	-1311	-1521	-1503	-1340	-6562	-5888
1982	-3422	-6846	-5697	-996	835	93	5440	5462	2980	-2047	-5945	-4902	-5544
1983	-4206	-2697	1980	5307	7813	8208	4253	4253	3837	1453	-711	-4428	-1660
1984	-1680	2047	3544	2189	146	-1487	733	-1009	-1068	-1904	-3418	-6406	-6082
1985	-5049	-6728	-3744	-1931	-1780	-1775	254	-967	-1045	-1569	-1522	-6546	-6110
1986	-3000	-3171	-3237	-4403	-1828	4057	1572	1572	-952	-897	-5605	-4468	-5813
1987	-5032	-3317	-2395	-3001	-2156	-2706	-63	-980	-1168	-1632	-1405	-6509	-5140
1988	-2356	-1768	-3105	-5637	-1511	-1469	-336	-894	-1034	-1902	-1773	-3733	-1837
1989	-1002	-2543	-1677	-2557	-839	-4618	-362	-943	-1064	-1782	-1566	-6586	-5410
1990	-3980	-3086	-1896	-4011	-1749	-1478	-204	-700	-1129	-1921	-1830	-2451	-2872
1991	-2044	-2057	-1330	-1479	-275	-2967	-84	-787	-926	-1588	-1880	-1839	-2182
Avg	-3524	-3170	-2049	-1943	-461	-469	990	194	-348	-1453	-2576	-4539	-4510

Department of Water Resources, Delta Modeling Section

Table 3
Monthly Average Flow
(Values in cubic feet per second)

ALTERNATIVE DEFT1

Old R. near Franks Tract

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr		May	Jun	Jul	Aug	Sep
							1-15	16-30					
1976	-5534	-4443	-3476	-3490	-3294	-3196	-2355	-2959	-2996	-2807	-3560	-5206	-4705
1977	-3688	-3460	-2770	-2886	-2517	-2508	-2405	-2784	-2753	-2797	-3045	-2853	-3408
1978	-2404	-2730	-3428	-5634	-5483	-3790	-3053	-3053	-2613	-3216	-4959	-4284	-5639
1979	-4878	-4058	-3212	-4225	-4097	-3997	-2745	-3918	-3814	-3164	-4969	-5959	-5560
1980	-4332	-4390	-4253	-4953	-4890	-3443	-2788	-3944	-3988	-3383	-5208	-4330	-5776
1981	-4911	-3910	-3561	-3667	-3627	-3870	-2752	-3737	-3575	-2700	-3427	-6059	-5627
1982	-3824	-5575	-6041	-5069	-5856	-5655	-5838	-5831	-3467	-4130	-6204	-5436	-6118
1983	-4733	-4835	-5382	-4818	-6123	-7083	-4258	-4258	-4378	-5878	-4171	-5565	-3992
1984	-4438	-4734	-5905	-3960	-3947	-3942	-2748	-3890	-3798	-3125	-4818	-6088	-5798
1985	-4514	-5550	-4047	-3270	-3378	-3239	-2557	-3357	-3228	-2766	-3536	-6051	-5704
1986	-3663	-3726	-3812	-4691	-9309	-5202	-2848	-2848	-4098	-3254	-5914	-5185	-5618
1987	-4686	-3788	-3327	-3587	-3439	-3723	-2426	-3030	-3019	-2766	-3451	-6029	-5238
1988	-3315	-3069	-3673	-4657	-2948	-2931	-2400	-2764	-2812	-2907	-3608	-4574	-3419
1989	-2765	-3321	-2907	-3317	-2685	-4702	-2821	-3204	-2902	-2876	-3567	-6086	-5310
1990	-3951	-3569	-3048	-4030	-3122	-2980	-2515	-2837	-2783	-2917	-3648	-3854	-3989
1991	-3177	-3084	-2668	-2776	-2492	-4037	-2590	3054	-2840	-2857	-3540	-3383	-3588
Avg	-4051	-4015	-3845	-4064	-4200	-4019	-2944	-3467	-3316	-3222	-4227	-5059	-4968

Mid R. @ Undine Rd.

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr		May	Jun	Jul	Aug	Sep
							1-15	16-30					
1976	-261	-50	42	36	69	47	-139	-196	-166	-186	-195	-160	-209
1977	-249	-19	56	43	50	44	-240	-260	-199	-146	-275	-247	-213
1978	-256	4	20	62	225	455	99	99	64	513	269	-208	239
1979	-252	-38	28	94	360	340	-97	-242	-197	223	-176	-164	-162
1980	-253	-42	21	490	918	600	-118	-253	-223	502	310	-214	-95
1981	-250	-35	27	36	67	78	-120	-234	-180	-173	-232	-134	-190
1982	-257	-73	-2	183	630	643	1248	1248	150	711	322	236	372
1983	-81	318	851	1157	1797	2034	944	942	889	1708	1107	259	531
1984	-264	607	974	659	401	191	-85	-226	-201	-117	-176	-145	-143
1985	-259	-70	21	38	50	54	-146	-232	-203	-175	-232	-134	-187
1986	-250	-34	20	1	682	1159	-42	-42	-221	611	-148	-178	-136
1987	-250	-30	38	25	41	48	-167	-221	-183	-190	-238	-138	-197
1988	-247	1	3	-8	45	21	-213	-240	-205	-136	-201	-200	-204
1989	-247	-4	24	18	36	6	-213	-235	-204	-131	-247	-183	-204
1990	-260	-30	26	2	35	36	-239	-259	-186	-134	-208	-203	-234
1991	-241	-12	38	30	40	31	-228	-259	-229	-156	-173	-226	-221
Avg	-242	30	137	179	340	362	14	-38	-93	170	-31	-127	-78

Department of Water Resources, Delta Modeling Section

Table 3
Monthly Average Flow
(Values in cubic feet per second)

ALTERNATIVE DEFT1

Mid R. @ Tracy Rd

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr		May	Jun	Jul	Aug	Sep
							1-15	16-30					
1976	-318	-112	-8	-34	-60	-16	-317	-373	-401	-381	-280	-214	-271
1977	-304	-78	25	-6	-41	-58	-288	-307	-365	-318	-388	-316	-277
1978	-311	-49	27	66	240	441	9	9	-90	341	145	-276	172
1979	-309	-100	10	84	346	297	-201	-346	-383	44	-294	-240	-213
1980	-308	-93	30	511	877	561	-204	-339	-365	338	197	-280	-158
1981	-307	-96	15	-2	47	35	-234	-347	-392	-370	-353	-208	-242
1982	-309	-114	15	171	660	624	1143	1142	14	543	207	185	317
1983	-114	283	900	1177	1857	2015	867	865	730	1523	981	194	472
1984	-310	583	951	647	342	120	-223	-364	-383	-312	-304	-235	-197
1985	-310	-118	9	6	21	-2	-258	-348	-369	-359	-348	-204	-242
1986	-301	-78	13	36	694	1126	-131	-131	-367	437	-264	-240	-205
1987	-310	-91	0	2	0	-29	-297	-351	-385	-373	-344	-212	-255
1988	-303	-52	-6	-51	-53	-16	-300	-327	-361	-340	-336	-283	-269
1989	-303	-61	0	-5	16	-50	-325	-347	-363	-331	-367	-229	-255
1990	-310	-85	3	-21	-30	-23	-288	-307	-379	-335	-337	-287	-309
1991	-315	-73	-23	-20	-15	19	-286	-317	-340	-314	-370	-349	-300
Avg	-296	-21	122	160	306	315	-83	-136	-262	-12	-153	-199	-139

Mid R. @ Victoria Is

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr		May	Jun	Jul	Aug	Sep
							1-15	16-30					
1976	-4034	-2893	-1731	-1819	-1366	-1222	-354	-920	-1042	-1313	-1188	-3050	-2680
1977	-1842	-1695	-885	-1099	-523	-626	-329	-675	-908	-1135	-760	-713	-1361
1978	-331	-807	-1401	-3080	-2434	620	1594	1594	914	-805	-2289	-2010	-3399
1979	-3247	-2433	-1356	-2018	-296	-650	311	-810	-946	-1382	-2540	-3751	-3388
1980	-2894	-2798	-2420	839	2343	1211	324	-775	-863	-827	-2404	-2035	-3539
1981	-3190	-2251	-1796	-1730	-1337	-1526	-110	-1047	-1200	-1157	-1060	-3891	-3538
1982	-2248	-3988	-3341	-651	610	150	3617	3630	1568	-1139	-3405	-2876	-3136
1983	-2542	-1603	1355	3498	5390	5771	2782	2782	2461	1270	-162	-2634	-956
1984	-1296	1300	2360	1413	79	-955	211	-883	-936	-1388	-2256	-3816	-3619
1985	-3124	-3928	-2277	-1245	-1158	-1160	-71	-835	-902	-1195	-1170	-3879	-3655
1986	-2001	-2011	-1998	-2623	-936	2735	733	733	-871	-523	-3387	-2807	-3480
1987	-3123	-2101	-1527	-1866	-1385	-1694	-267	-834	-977	-1239	-1099	-3864	-3160
1988	-1638	-1186	-1929	-3291	-1030	-981	-431	-767	-880	-1382	-1300	-2426	-1326
1989	-848	-1643	-1111	-1616	-600	-2768	-458	-808	-898	-1324	-1202	-3918	-3298
1990	-2550	-1967	-1235	-2419	-1158	-996	-362	-659	-938	-1405	-1357	-1691	-1943
1991	-1462	-1363	-916	-1000	-281	-1852	-287	-715	-801	-1197	-1402	-1356	-1540
Avg	-2273	-1960	-1263	-1169	-255	-246	431	-62	-451	-1009	-1686	-2795	-2751

Department of Water Resources, Delta Modeling Section

Table 3
Monthly Average Flow
(Values in cubic feet per second)

ALTERNATIVE DEFT1

Mid R. @ Bacon Is

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	-7228	-5137	-3053	-3203	-2384	-2176	-455	-1456	-1648	-2207	-2029	-5566	-4746
1977	-3118	-2968	-1561	-1922	-899	-1093	-408	-1032	-1420	-1896	-1273	-1170	-2329
1978	-407	-1397	-2443	-5648	-4587	807	2802	2802	1656	-1721	-4301	-3539	-6442
1979	-5729	-4288	-2389	-3648	-745	-1347	663	-1292	-1527	-2564	-4493	-6849	-6145
1980	-5047	-4968	-4352	1184	3487	1751	690	-1229	-1388	-1766	-4555	-3581	-6501
1981	-5634	-3957	-3186	-3053	-2088	-2742	-62	-1702	-1958	-1944	-1786	-7134	-6411
1982	-3849	-7257	-6053	-1266	632	-171	5445	5468	2729	-2476	-6511	-5435	-6058
1983	-4650	-3041	1830	5352	8010	8394	4229	4228	3736	1045	-1073	-4971	-2065
1984	-2156	1892	3452	2056	-76	-1778	492	-1416	-1500	-2379	-3966	-6983	-6610
1985	-5482	-7140	-4069	-2195	-2042	-2051	26	-1316	-1430	-2015	-1981	-7116	-6638
1986	-3399	-3531	-3548	-4701	-2231	3991	1366	1366	-1410	-1294	-6169	-5020	-6336
1987	-5488	-3687	-2690	-3308	-2442	-3010	-301	-1306	-1543	-2081	-1853	-7077	-5662
1988	-2734	-2064	-3418	-5971	-1775	-1727	-579	-1183	-1369	-2347	-2228	-4284	-2273
1989	-1310	-2874	-1943	-2850	-1045	-4968	-622	-1250	-1401	-2234	-2029	-7151	-5928
1990	-4404	-3442	-2170	-4327	-2014	-1765	-451	-988	-1469	-2373	-2307	-2908	-3375
1991	-2424	-2373	-1594	-1733	-468	-3306	-337	-1102	-1255	-2012	-152	-2291	-2652
Avg	-3941	-3514	-2324	-2202	-685	-699	781	-88	-700	-1892	-3057	-5067	-5011

Mid R. @ Mandeville Is.

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	-5012	-4110	-3101	-3216	-2729	-2634	-1617	-1854	-2041	-2685	-2252	-4322	-3853
1977	-2773	-2797	-2221	-2462	-1904	-2057	-1553	-1684	-2028	-2451	-1934	-1811	-2425
1978	-1459	-2017	-2631	-4405	-3519	-171	1281	1281	225	-1907	-3564	-3110	-4804
1979	-4121	-3596	-2684	-3259	-1194	-1615	-574	-1096	-1309	-2805	-3711	-5100	-4652
1980	-4041	-4023	-3792	364	2214	583	-539	-1056	-1159	-1900	-3632	-3127	-4816
1981	-3974	-3404	-3143	-3085	-2653	-2874	-1121	-1554	-1796	-2509	-2176	-5244	-4840
1982	-3336	-5341	-4651	-1616	298	-288	3935	3948	1343	-2108	-4753	-4185	-4372
1983	-3480	-2528	1309	3771	6496	7180	2589	2590	2198	1851	-846	-3874	-1956
1984	-1464	868	2423	920	-750	-2075	-698	-1205	-1381	-2669	-2396	-5175	-4910
1985	-4262	-5255	-3685	-2608	-2470	-2518	-1166	-1511	-1639	-2528	-1278	-5231	-4975
1986	-3102	-3177	-3354	-3888	-1069	2764	15	15	-1010	-1520	-4692	-3980	-4763
1987	-4092	-3254	-2879	-3246	-2726	-3111	-1466	-1706	-1933	-2601	-2206	-5212	-4398
1988	-2750	-2367	-3285	-4882	-2392	-2355	-1678	-1801	-1965	-2747	-2438	-3591	-2375
1989	-1951	-2873	-2457	-2997	-1904	-4259	-1686	-1820	-2024	-2674	-2335	-5255	-4562
1990	-3731	-3191	-2584	-3868	-2526	-2398	-1572	-1678	-2118	-2759	-2500	-2816	-3057
1991	-2618	-2591	-2303	-2348	-1633	-3171	-1494	-1665	-1880	-2466	-2613	-2516	-2636
Avg	-3260	-3103	-2440	-2301	-1154	-1187	-459	-674	-1157	-2155	-2833	-4034	-3962

Department of Water Resources, Delta Modeling Section

Table 3
Monthly Average Flow
(Values in cubic feet per second)

ALTERNATIVE DEFT1

GLC @ Tracy Rd

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	759	-67	1192	1010	1013	884	2427	586	457	413	1041	1096	718
1977	841	-41	1010	707	532	446	2096	900	607	883	429	943	1026
1978	979	-23	1104	2158	3789	4821	8288	8288	6305	1927	963	825	1062
1979	733	-20	1346	2425	4218	4054	4294	753	585	516	723	865	965
1980	757	-96	1338	5119	8215	5964	4309	808	701	1895	1197	793	1208
1981	719	-52	1160	1555	1533	1715	3656	684	493	497	558	1090	822
1982	824	-67	1419	2672	6397	6538	10239	10213	8306	2690	1337	1040	1672
1983	5523	4216	8135	9886	13664	14723	8304	8305	7878	13369	3995	1092	2159
1984	951	6024	8651	6411	4385	2806	4124	673	613	767	717	909	1043
1985	817	-63	1332	1133	1296	1268	3103	697	625	526	565	1106	825
1986	842	-64	1177	1524	6878	9856	5584	5584	693	2295	822	869	1016
1987	709	-51	1078	1073	1226	1069	2538	692	527	450	575	1079	769
1988	852	-84	996	1031	623	730	1858	761	629	866	922	890	1098
1989	915	-153	921	784	698	990	1933	738	617	846	454	976	755
1990	836	-54	764	876	642	629	1883	901	549	814	794	843	625
1991	806	-87	673	632	553	1616	2272	840	720	891	715	707	916
Avg	1116	582	2019	2437	3479	3632	4182	2589	1894	1853	988	945	1042

Victoria Canal

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	3685	2747	1706	1759	1271	1154	-43	465	497	805	864	2808	2378
1977	1507	1584	904	1071	453	525	22	349	444	705	312	363	1052
1978	-9	730	1465	3169	2700	-186	-1629	-1629	-1083	1051	2372	1701	3538
1979	2907	2299	1363	2112	640	929	-563	413	466	1326	2185	3473	3147
1980	2557	2678	2475	-287	-1483	-671	-571	392	427	1072	2543	1722	3349
1981	2853	2122	1816	1713	1383	1536	-183	640	695	677	646	3647	3267
1982	1912	3852	3403	821	94	466	-2528	-2541	-1625	1589	3554	3035	3426
1983	2419	1882	-389	-2280	-3458	-3759	-1956	-1957	-1812	149	1080	2794	1398
1984	963	-707	-1412	-765	236	1039	-507	446	455	968	1888	3536	3393
1985	2786	3184	2291	1237	1170	1130	-243	430	446	734	764	3641	3384
1986	1671	1907	2024	2717	1654	-1627	-908	-908	430	865	3063	2536	3242
1987	2781	1977	1514	1863	1366	1631	-82	430	475	748	698	3619	2876
1988	1305	1107	1932	3221	944	943	92	401	437	910	890	2105	1025
1989	517	1551	1105	1606	617	2691	86	414	444	864	769	3665	3015
1990	2215	1853	1237	2393	1101	946	61	338	466	940	948	1365	1599
1991	1111	1258	860	966	246	1882	-25	371	416	800	905	940	1204
Avg	1949	1914	1393	1332	558	539	-561	-121	99	888	1467	2559	2581

Department of Water Resources, Delta Modeling Section

Table 3
Monthly Average Flow
(Values in cubic feet per second)

ALTERNATIVE DEFT1

Turner Cut

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	-1821	-1208	-651	-674	-535	-502	-214	-608	-660	-560	-612	-1272	-1104
1977	-913	-820	-373	-432	-227	-259	-174	-426	-498	-524	-404	-400	-652
1978	-237	-436	-520	-1219	-1207	-360	-203	-203	-205	-773	-1084	-908	-1480
1979	-1529	-1056	-530	-847	-567	-659	-208	-963	-1001	-655	-1079	-1519	-1391
1980	-1193	-1166	-888	-395	-404	-337	-215	-955	-1006	-797	-1189	-916	-1502
1981	-1572	-987	-678	-666	-551	-643	-270	-900	-940	-502	-532	-1586	-1420
1982	-961	-1618	-1236	-570	-661	-832	-457	-453	-306	-1083	-1587	-1305	-1561
1983	-1302	-1006	-636	-291	-669	-1100	-263	-263	-316	-1857	-1114	-1245	-886
1984	-1217	-380	-532	-360	-504	-625	-241	-978	-949	-641	-987	-1555	-1492
1985	-1285	-1611	-839	-486	-481	-481	-188	-707	-725	-524	-573	-1584	-1462
1986	-860	-887	-738	-940	-1369	-488	-192	-192	-1125	-782	-1404	-1186	-1433
1987	-1410	-932	-583	-693	-548	-648	-185	-580	-634	-539	-550	-1571	-1275
1988	-706	-575	-703	-1168	-402	-394	-197	-443	-483	-608	-632	-1022	-651
1989	-414	-713	-429	-597	-257	-1009	-223	-479	-471	-588	-572	-1575	-1318
1990	-1018	-829	-473	-856	-444	-405	-177	-397	-451	-610	-634	-732	-837
1991	-625	-614	-368	-385	-151	-721	-179	-486	-450	-537	-643	-603	-701
Avg	-1066	-927	-636	-661	-561	-591	-224	-565	-639	-724	-850	-1186	-1198

Columbia Cut

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	-2532	-1397	-374	-400	-136	-66	554	-207	-231	-31	-411	-1680	-1338
1977	-834	-651	161	65	453	417	560	67	27	12	-9	10	-461
1978	443	75	-246	-1666	-1623	7	363	363	484	-495	-1315	-976	-2049*
1979	-1994	-1102	-158	-841	-363	-469	453	-981	-1001	-280	-1315	-2164	-1908
1980	-1356	-1316	-923	-333	-250	100	440	-963	-1043	-574	-1517	-1004	-2110
1981	-2070	-976	-456	-414	-244	-398	370	-840	-843	41	-259	-2281	-1966
1982	-922	-2217	-1792	-544	-916	-1057	-473	-467	129	-1128	-2277	-1758	-2231
1983	-1637	-1177	-791	-141	-589	-954	75	75	-25	-2190	-1214	-1682	-838
1984	-1440	-254	-652	-36	-220	-375	419	-983	-896	-252	-1146	-2234	-2102
1985	-1549	-2201	-766	-70	-94	-49	523	-474	-457	-7	-339	-2278	-2041
1986	-730	-794	-594	-1159	-2573	-417	448	448	-1241	-541	-1971	-1539	-1983
1987	-1774	-872	-252	-466	-203	-375	557	-204	-232	0	-290	-2255	-1681
1988	-440	-211	-526	-1362	115	123	539	57	17	-120	-422	-1184	-466
1989	102	-454	50	-269	324	-1110	443	-49	29	-86	-330	-2276	-1762
1990	-1031	-677	-44	-805	24	103	535	104	80	-121	-427	-633	-825
1991	-288	-263	213	141	573	-614	533	-59	38	-60	-366	-342	-559
Avg	-1128	-905	-447	-519	-357	-321	396	-257	-322	-364	-850	-1517	-1520

Figure 1-3
Output Locations for Monthly Average Electrical Conductivity

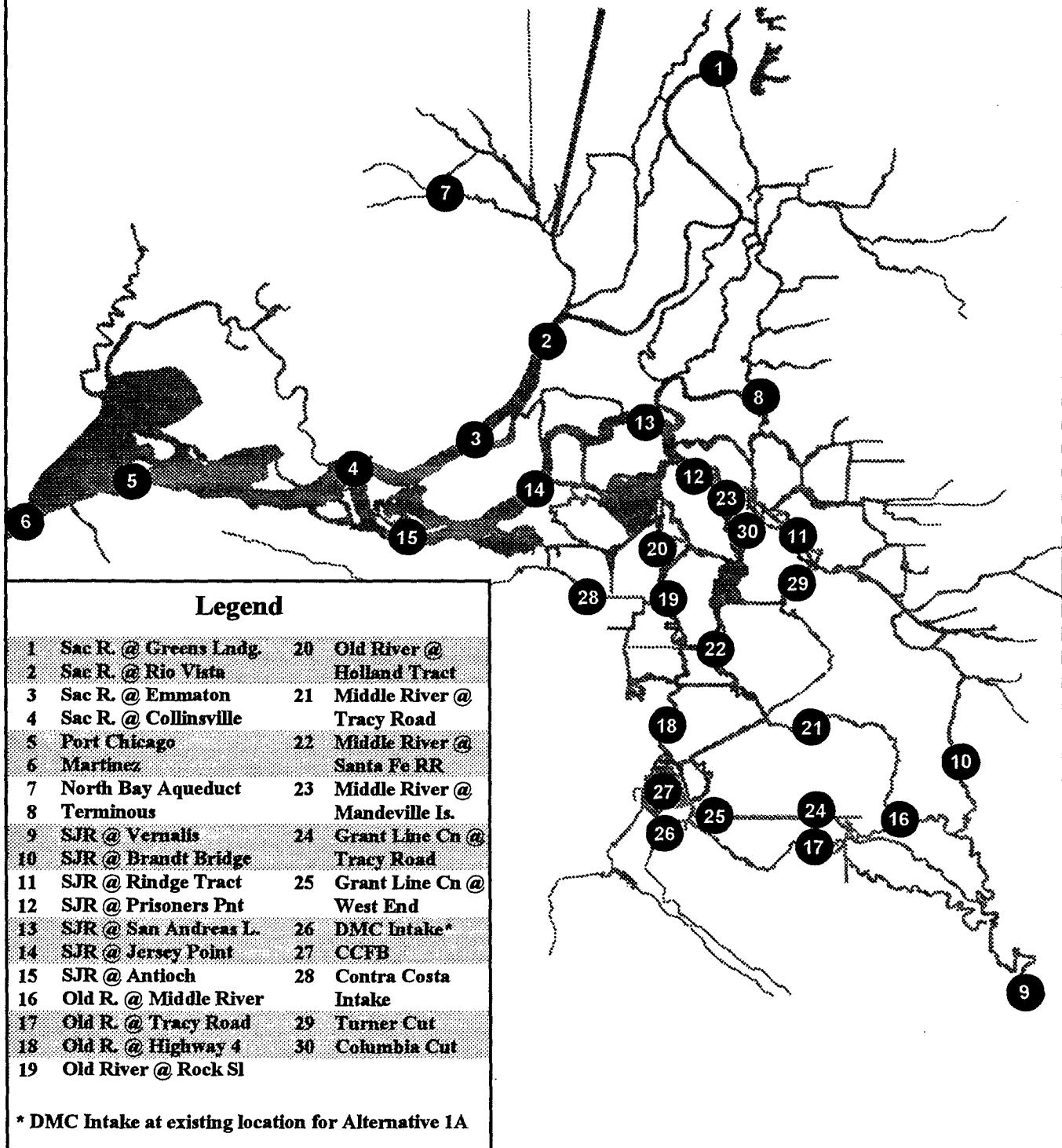


Table 1- 4
Monthly Average Electrical Conductivity

(Values in micro Siemens per centimeter)

Alternative DEFT1

Sacramento River @ Greens Landing

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	150	150	152	151	151	151	152	151	151	151	151	151
1977	150	150	154	152	152	152	151	151	151	151	151	151
1978	151	158	166	152	152	150	150	150	151	151	151	151
1979	151	150	159	154	150	150	151	151	151	151	150	150
1980	150	153	156	153	150	150	150	151	151	151	151	150
1981	150	151	155	151	151	150	151	151	151	151	150	150
1982	154	151	152	151	152	150	150	150	150	150	150	150
1983	152	151	153	153	152	150	150	150	150	150	150	150
1984	151	151	150	150	150	150	151	151	151	151	151	150
1985	154	150	151	151	151	151	151	151	151	151	150	150
1986	153	152	154	160	151	150	150	151	151	151	151	150
1987	150	150	152	152	151	151	151	151	151	151	150	150
1988	151	154	155	151	152	151	151	151	151	151	151	151
1989	151	151	153	151	153	150	150	151	151	151	150	150
1990	150	150	154	152	151	151	151	151	151	151	151	151
1991	151	151	151	153	151	152	150	151	151	151	151	151
Avg	151	151	154	152	151	151	151	151	151	151	151	150

Sacramento River @ Rio Vista

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	153	158	166	164	158	155	168	175	171	198	185	241
1977	204	242	257	229	207	213	187	193	173	209	248	295
1978	254	257	235	163	162	153	152	154	155	155	162	183
1979	184	182	197	178	157	154	154	157	154	156	164	189
1980	179	170	183	163	152	152	153	154	155	155	162	181
1981	191	194	174	158	155	153	154	159	166	182	167	197
1982	209	160	160	154	158	154	151	152	153	154	158	156
1983	159	156	163	163	159	151	151	152	151	153	154	152
1984	155	157	152	152	154	153	155	156	156	156	158	179
1985	175	154	158	159	160	156	156	160	162	178	168	200
1986	220	209	177	211	154	151	154	156	158	154	159	185
1987	189	217	182	164	156	154	158	163	168	189	169	200
1988	223	256	182	159	161	157	163	169	172	208	198	290
1989	212	222	230	173	185	154	153	156	167	183	163	202
1990	194	227	216	167	160	158	157	166	172	207	218	255
1991	209	269	322	276	181	161	156	158	160	209	314	357
Avg	194	202	197	177	164	158	158	161	162	178	184	216

Department of Water Resources, Delta Modeling Section

Table 1-4 (cont.)
Monthly Average Electrical Conductivity
 (Values in micro Siemens per centimeter)

Alternative DEFT1

Sacramento River @ Emmaton

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	488	541	581	524	298	210	589	1014	929	1156	1300	2238
1977	1848	2389	2529	2087	1581	1716	1260	1419	1040	1239	1897	2764
1978	2164	1978	618	178	164	159	163	170	180	212	531	1203
1979	1512	1456	967	260	167	161	168	196	204	291	615	1290
1980	1351	813	314	174	156	156	164	179	186	224	565	1222
1981	1630	1674	761	252	166	157	164	230	567	965	824	1496
1982	1628	330	164	157	164	157	153	155	160	186	409	351
1983	183	160	170	168	161	151	151	154	154	156	169	156
1984	164	164	154	155	158	157	171	198	230	274	429	1062
1985	1186	335	175	183	175	174	189	276	512	879	870	1598
1986	1816	1496	518	249	156	153	159	178	199	218	429	1241
1987	1647	1989	1188	543	239	167	233	507	761	1061	878	1561
1988	2130	2485	760	248	239	251	526	863	949	1391	1538	2588
1989	1904	2133	2128	1002	768	195	159	240	656	976	717	1574
1990	1866	2213	1652	492	278	282	290	710	951	1364	1815	2487
1991	1988	2728	3504	2891	990	203	172	317	557	1474	2944	3534
Avg	1469	1430	1011	598	366	278	294	425	515	754	996	1648

Sacramento River @ Collinsville

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	2197	2518	2580	2446	1037	634	2448	4156	3571	3544	4818	6692
1977	6617	7711	7918	7130	5631	5918	4685	5240	3873	3644	5163	7142
1978	5763	5485	2064	217	170	168	185	187	284	651	2129	4706
1979	6036	5615	3813	615	191	173	185	303	521	1141	2747	4650
1980	4919	2830	744	204	163	164	176	202	295	738	2237	4704
1981	6351	6238	3046	622	195	164	194	635	2224	3142	3558	5297
1982	5317	786	169	163	175	166	156	161	170	489	1751	1411
1983	341	169	188	183	162	151	152	161	161	160	302	182
1984	174	178	157	160	167	163	185	244	664	997	1957	4114
1985	5143	847	266	451	340	398	482	1020	2126	2962	3765	5576
1986	5635	4895	1654	346	158	155	165	199	361	734	1880	4703
1987	6446	6900	4663	2346	630	220	840	2341	3062	3355	3705	5270
1988	7273	7811	3187	632	864	1084	2378	3780	3710	4165	5155	6689
1989	6503	7437	7220	4246	3052	383	170	911	2634	3182	3168	5397
1990	7010	7431	5913	1907	889	1250	1295	3176	3657	4123	5472	6955
1991	7086	8310	9614	8644	3749	385	260	1389	2342	4461	7333	8385
Avg	5176	4698	3325	1895	1098	724	872	1507	1853	2343	3446	5117

Department of Water Resources, Delta Modeling Section

Table 1-4 (cont.)
Monthly Average Electrical Conductivity
 (Values in micro Siemens per centimeter)

Alternative DEFT1

Port Chicago

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	14843	14865	14685	14202	10103	9395	13005	15043	15775	17057	19220	20439
1977	19439	19936	19988	19142	17297	17397	16662	16879	16004	17182	19237	20617
1978	18870	19110	14609	1947	948	506	1006	2599	6254	10421	15341	18919
1979	19568	18416	16592	7769	1946	2079	3635	6190	9145	12630	16569	19071
1980	19258	16210	10134	463	172	599	2866	4388	7100	11037	15390	18907
1981	19725	19048	15426	8517	4685	3664	4995	8359	13741	16319	18068	19825
1982	19338	8184	423	295	177	188	161	859	3414	8240	14050	13210
1983	7897	2532	220	189	177	152	151	500	418	2167	6637	4418
1984	3501	321	166	319	1525	2104	3916	5583	9668	12072	15058	18416
1985	19050	8448	6894	8375	7664	7914	8460	10640	14172	16339	18285	19920
1986	19456	18567	13184	7463	303	161	2239	4510	7528	11135	14930	18755
1987	19741	19506	17182	14207	8520	5607	9495	12893	15403	16641	18256	19689
1988	20320	19947	15415	9016	10058	10989	13655	15360	16066	17545	19275	20315
1989	19420	19853	19405	16589	15002	4882	3939	9120	14145	16318	17717	19825
1990	20336	19875	18646	13105	10346	11434	11900	14341	15766	17474	19380	20533
1991	19659	20178	20815	20092	15083	5888	6528	11244	14547	17793	20189	20921
Avg	17526	15312	12737	8856	6500	5185	6413	8657	11197	13773	16725	18361

Martinez

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	20669	20550	20325	19686	15609	15138	17854	19575	21373	23560	25381	26173
1977	24507	24902	24888	23915	22003	22120	21693	21639	21624	23516	25290	26145
1978	24529	25005	22271	5501	3033	2261	2934	5873	11259	16895	21966	24923
1979	24867	23527	22313	13625	5171	4911	7550	10905	15248	19450	23101	25282
1980	25187	22758	17776	2324	482	2212	6390	8992	13031	17551	21977	24918
1981	24969	24129	21200	14479	9774	7917	9646	13166	19409	22659	24699	25822
1982	25420	14515	2778	1526	1178	1461	676	2610	7277	13607	20477	20021
1983	14939	6598	1836	856	291	143	1594	3732	2429	5141	11602	9676
1984	7985	2359	434	1647	4315	5272	8144	10811	15610	18779	21798	24612
1985	24526	14145	12702	13990	13512	13391	13935	16002	20138	22706	24618	25778
1986	25460	24481	20196	14995	770	267	5340	9197	13163	17833	21601	24701
1987	24940	24505	22482	19846	14365	10913	14538	17730	21098	22914	24638	25769
1988	25466	24855	21037	14884	15521	16521	18916	20267	21540	23605	25397	26094
1989	24513	24870	24262	21755	20498	9548	8297	13764	19566	22704	24622	25801
1990	25472	24807	23886	18900	16115	16961	17682	19204	21270	23624	25385	26147
1991	24544	25029	25435	24690	20085	11238	11863	16415	20537	23624	25526	26128
Avg	23000	20440	17739	13289	10170	8767	10441	13118	16536	19886	23005	24249

Department of Water Resources, Delta Modeling Section

Table 1-4 (cont.)
Monthly Average Electrical Conductivity

(Values in micro Siemens per centimeter)

Alternative DEFT1

North Bay Aqueduct

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	178	182	197	220	230	235	217	204	196	187	187	189
1977	187	184	197	221	247	271	280	252	229	216	214	218
1978	221	216	247	347	491	507	420	260	204	191	189	190
1979	186	186	231	342	406	334	291	221	196	188	189	184
1980	178	200	283	413	554	490	335	233	196	187	186	186
1981	187	187	218	284	242	232	226	202	193	189	190	184
1982	195	224	300	455	374	476	412	261	210	191	188	187
1983	203	241	284	460	599	663	535	356	234	195	190	188
1984	192	233	332	264	240	260	218	197	190	188	191	188
1985	201	217	215	235	227	248	243	201	190	187	188	185
1986	189	203	248	321	468	543	418	281	212	194	190	189
1987	189	186	197	222	241	255	238	209	199	193	194	193
1988	189	195	236	307	350	330	286	237	216	208	209	209
1989	205	202	209	231	249	261	261	208	195	193	189	183
1990	180	183	202	244	286	303	265	222	208	202	203	205
1991	209	213	213	209	225	248	267	267	237	214	217	227
Avg	193	203	238	298	339	354	307	238	207	195	195	194

Terminus

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	168	179	217	232	220	206	208	220	193	165	157	159
1977	183	210	264	280	260	237	225	217	196	169	167	164
1978	202	251	411	217	209	170	151	178	186	160	158	157
1979	178	195	248	280	180	155	161	183	179	158	155	154
1980	176	193	307	193	150	155	161	162	172	155	155	154
1981	176	193	225	212	205	171	175	208	193	168	157	156
1982	192	221	220	159	173	147	138	145	163	155	152	152
1983	203	182	196	190	180	142	143	143	151	158	151	151
1984	188	184	148	155	154	157	173	185	182	158	157	154
1985	185	182	198	214	205	182	186	202	188	166	156	156
1986	185	211	287	413	163	144	152	165	182	157	154	155
1987	177	196	222	234	224	182	187	202	188	166	157	157
1988	185	257	312	223	214	205	192	193	190	170	159	164
1989	190	212	260	250	300	184	170	184	185	166	155	157
1990	182	210	250	252	230	202	190	186	189	168	164	163
1991	190	225	262	295	288	215	184	180	173	173	170	167
Avg	185	206	252	237	210	178	175	185	182	163	158	158

Department of Water Resources, Delta Modeling Section

Table 1-4 (cont.)
Monthly Average Electrical Conductivity
 (Values in micro Siemens per centimeter)

Alternative DEFT1

SJR @ Vernalis

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	599	609	743	771	776	768	698	657	611	510	510	720
1977	762	648	745	857	967	992	945	934	714	582	878	1050
1978	996	948	916	714	454	311	246	243	309	465	588	612
1979	545	609	765	626	393	309	344	419	566	649	625	687
1980	755	776	776	498	217	208	294	348	344	422	574	636
1981	524	586	755	719	667	622	585	678	654	537	535	713
1982	840	796	804	591	314	222	189	188	252	368	473	451
1983	349	289	239	173	148	128	155	189	162	177	320	375
1984	326	273	198	191	246	331	447	536	577	635	682	699
1985	715	734	743	766	769	724	644	640	618	539	535	713
1986	842	802	800	821	511	191	229	298	306	501	680	688
1987	614	636	762	784	777	754	651	616	594	517	518	713
1988	896	896	920	934	964	979	859	792	656	540	802	976
1989	950	971	968	976	1019	950	765	679	586	543	790	958
1990	953	970	980	1012	1040	993	822	693	579	706	976	982
1991	968	983	988	1039	1132	934	657	647	607	771	1163	1280
Avg	727	720	756	717	650	589	533	535	508	529	666	766

SJR @ Brandt Bridge

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	606	596	751	774	793	771	708	655	642	515	512	679
1977	773	644	744	846	966	996	950	929	759	557	831	1048
1978	1002	949	937	737	462	313	247	244	309	459	587	612
1979	550	596	770	640	398	310	345	419	555	652	629	679
1980	756	774	801	507	218	209	293	350	346	420	565	637
1981	529	572	762	732	672	630	586	674	678	544	538	680
1982	845	796	979	615	319	223	190	189	252	365	472	453
1983	352	291	246	175	152	128	155	190	164	177	314	377
1984	326	275	199	191	246	331	446	536	578	631	683	699
1985	715	734	757	766	777	732	649	638	634	546	537	679
1986	847	802	815	897	523	192	228	299	307	476	681	687
1987	620	625	765	789	788	765	660	615	617	523	522	675
1988	897	895	940	1046	970	983	873	787	693	534	755	977
1989	951	968	981	974	1019	1041	787	680	611	536	744	957
1990	951	969	986	1053	1052	1008	839	697	606	644	958	985
1991	966	983	990	1032	1120	975	663	646	622	699	1047	1280
Avg	730	717	776	736	655	600	539	534	523	517	648	757

Department of Water Resources, Delta Modeling Section

Table 1-4 (cont.)
Monthly Average Electrical Conductivity
 (Values in micro Siemens per centimeter)

Alternative DEFT1

SJR @ Rindge Tract

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	578	507	465	388	382	314	566	645	497	396	233	302
1977	743	640	752	758	746	652	810	879	689	380	330	402
1978	869	919	756	419	498	342	257	251	310	256	203	220
1979	545	572	679	616	449	322	345	420	344	201	192	246
1980	638	730	506	570	232	212	288	355	357	300	207	214
1981	526	538	645	435	390	353	559	663	510	303	221	292
1982	700	633	316	615	371	236	196	192	257	234	192	357
1983	374	314	279	198	170	132	156	195	169	178	193	372
1984	334	303	211	198	251	320	435	537	437	220	185	225
1985	617	622	288	276	344	329	609	632	482	287	218	314
1986	712	784	585	498	572	201	224	304	318	209	179	210
1987	606	616	709	512	402	270	546	606	431	311	224	287
1988	676	860	660	409	279	279	607	750	526	372	237	383
1989	821	854	819	680	655	321	472	651	397	275	210	278
1990	707	963	920	578	419	325	627	664	458	347	255	273
1991	695	912	992	1069	979	534	619	624	463	288	290	370
Avg	634	673	599	514	446	321	457	523	415	285	223	297

SJR @ Prisoners Point

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	608	552	516	429	355	233	253	371	476	363	360	640
1977	778	790	929	828	712	565	527	464	537	364	303	427
1978	591	608	547	265	221	304	266	244	235	181	178	373
1979	973	1131	806	391	333	247	278	355	241	183	266	474
1980	1003	984	494	478	262	209	243	315	257	179	177	345
1981	855	1082	817	376	213	180	299	453	323	273	356	623
1982	973	698	229	264	337	227	203	188	204	169	179	191
1983	203	222	299	236	202	143	155	198	174	171	164	209
1984	291	305	225	200	219	203	308	431	264	184	223	407
1985	1019	798	229	196	198	187	293	422	310	253	367	695
1986	1010	896	629	366	370	213	198	279	264	183	187	362
1987	1056	1224	914	552	329	201	234	323	350	310	375	580
1988	823	880	727	434	239	212	235	324	448	398	351	465
1989	565	677	945	762	515	268	200	241	278	289	333	567
1990	1262	1445	1079	667	352	231	239	269	451	387	330	470
1991	744	941	1229	1234	808	311	243	271	258	303	473	688
Avg	797	827	663	480	354	246	261	322	317	262	289	470

Department of Water Resources, Delta Modeling Section

Table 1-4 (cont.)
Monthly Average Electrical Conductivity

(Values in micro Siemens per centimeter)

Alternative DEFT1

SJR @ San Andreas Landing

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	724	628	578	481	377	232	232	344	550	427	487	891
1977	976	986	1114	969	795	639	556	463	609	425	402	613
1978	722	660	573	258	201	225	223	219	213	178	193	514
1979	1257	1338	896	398	237	195	216	273	229	192	338	643
1980	1227	1099	514	310	209	186	203	247	224	177	193	478
1981	1140	1310	913	387	205	173	209	303	318	317	471	844
1982	1192	746	220	185	237	181	172	170	185	169	199	214
1983	197	187	242	215	190	143	150	172	169	166	163	172
1984	225	236	186	178	184	178	228	310	246	191	267	547
1985	1248	857	225	192	191	182	209	290	308	290	490	945
1986	1239	1044	688	358	213	180	178	232	231	187	209	500
1987	1355	1460	1042	610	337	198	192	250	395	363	499	783
1988	1043	1059	823	453	238	214	222	297	525	485	472	667
1989	683	842	1120	864	543	277	182	198	316	341	433	773
1990	1549	1679	1216	734	354	233	214	254	539	471	443	666
1991	937	1152	1484	1432	840	301	199	214	277	382	688	994
Avg	982	955	740	502	334	234	224	265	333	298	372	640

SJR @ Jersey Point

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	1501	1297	1173	1019	652	310	349	698	1293	839	1520	2518
1977	2209	2353	2333	2137	1506	1338	963	958	1363	781	826	1446
1978	1288	1219	925	328	204	223	228	214	211	221	370	1679
1979	3007	2903	1717	606	245	203	207	248	275	312	1000	1902
1980	2740	2071	784	334	232	188	198	229	224	222	376	1596
1981	2848	2942	1817	599	226	177	191	272	595	635	1430	2424
1982	2598	1199	239	197	246	201	181	174	184	211	428	476
1983	263	190	257	235	203	148	151	178	177	166	175	172
1984	206	242	198	183	189	183	208	275	296	291	706	1651
1985	2841	1375	249	220	208	201	203	276	580	568	1522	2685
1986	2656	2202	1271	435	228	189	178	216	226	284	458	1633
1987	3239	3151	2170	1221	517	226	203	355	927	721	1523	2215
1988	2463	2271	1750	682	304	342	340	589	1279	1027	1374	1574
1989	1369	2180	2442	1881	896	426	186	226	729	706	1288	2225
1990	3566	3532	2428	1426	500	348	275	499	1320	1000	1139	1816
1991	2253	2647	3123	2910	1312	399	203	257	589	916	1707	2323
Avg	2190	1986	1430	901	479	318	267	354	642	556	990	1771

Department of Water Resources, Delta Modeling Section

Table 1-4 (cont.)
Monthly Average Electrical Conductivity

(Values in micro Siemens per centimeter)

Alternative DEFT1

SJR @ Antioch

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	2296	2386	2376	2216	1092	569	1604	2976	3152	2575	4061	5797
1977	5591	6336	6384	5847	4413	4487	3381	3790	3402	2555	3427	5161
1978	4173	4028	1928	320	196	207	217	205	260	505	1513	4099
1979	5672	5313	3489	795	235	195	198	274	469	881	2401	4148
1980	4754	2979	881	324	233	182	189	217	270	553	1576	4054
1981	5812	5764	3093	760	228	174	192	464	1774	2235	3176	4836
1982	4951	1095	218	192	236	200	182	171	180	409	1371	1221
1983	364	187	251	239	209	152	152	176	176	165	256	185
1984	191	231	199	180	183	178	196	260	565	781	1704	3662
1985	4949	1222	275	386	312	341	355	676	1717	2085	3399	5162
1986	5174	4452	1846	428	233	190	174	208	302	627	1467	4050
1987	6065	6264	4352	2267	734	242	553	1568	2580	2411	3356	4708
1988	6133	6282	3213	747	685	872	1566	2661	3235	3134	4142	4985
1989	4806	6117	6102	3938	2386	496	183	638	2161	2332	2838	4787
1990	6585	6820	5248	2084	835	974	903	2237	3230	3075	4059	5490
1991	5956	6873	7920	7227	3157	479	241	920	1882	3281	5528	6560
Avg	4592	4147	2986	1747	960	621	643	1090	1585	1725	2767	4307

Old River @ Middle River

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	529	588	748	772	786	769	605	549	617	511	468	644
1977	681	774	750	851	966	994	819	694	726	561	600	839
1978	603	685	923	726	461	313	247	244	310	461	555	613
1979	629	787	773	636	397	310	354	430	561	620	590	647
1980	666	920	785	506	219	209	291	380	349	421	525	637
1981	565	716	760	725	670	627	527	592	657	518	505	665
1982	715	835	818	602	319	223	190	189	253	367	472	454
1983	352	291	246	176	152	128	156	190	164	177	316	377
1984	357	277	200	192	247	332	428	521	579	600	681	699
1985	659	877	747	766	773	728	582	573	618	516	503	668
1986	755	898	807	835	520	192	229	339	310	467	634	688
1987	652	879	771	786	782	758	554	518	593	503	493	652
1988	638	830	925	946	965	98	673	530	660	527	641	819
1989	610	724	973	973	1019	962	590	469	584	496	636	836
1990	805	1154	987	1012	1043	1000	638	504	573	577	746	852
1991	625	820	987	1034	1124	952	562	488	578	601	523	989
Avg	615	753	763	721	653	592	465	451	508	495	556	692

Department of Water Resources, Delta Modeling Section

Table 1-4 (cont.)
Monthly Average Electrical Conductivity
 (Values in micro Siemens per centimeter)

Alternative DEFT1

Old River @ Tracy Road

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	617	638	754	780	799	773	676	521	618	546	439	624
1977	793	826	765	852	970	998	882	680	691	566	478	490
1978	613	659	932	755	522	322	386	342	316	459	544	612
1979	827	899	808	658	409	314	390	440	557	612	591	646
1980	863	1038	818	555	224	212	325	395	355	421	518	621
1981	748	815	781	741	678	635	575	545	660	518	417	639
1982	907	944	852	623	365	228	192	339	257	367	473	457
1983	443	302	330	213	205	131	157	193	166	179	314	380
1984	362	304	205	196	251	337	470	505	576	591	646	670
1985	864	1024	772	777	781	736	647	536	618	515	410	646
1986	915	982	830	923	556	195	287	363	315	459	628	658
1987	883	1030	802	797	793	765	637	487	592	505	423	631
1988	748	879	937	953	972	984	751	496	542	563	409	517
1989	621	683	958	977	1022	970	672	441	452	498	373	827
1990	1053	1299	1026	1016	1049	1008	736	480	508	550	537	829
1991	718	836	980	1035	1116	976	635	477	470	425	470	672
Avg	748	822	784	741	670	599	526	453	481	486	479	620

Old River @ Highway 4

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	665	633	633	524	474	333	403	466	543	526	413	726
1977	893	866	1029	981	916	735	714	620	656	563	397	496
1978	634	728	746	413	310	325	253	252	288	233	215	407
1979	994	1214	1028	562	429	343	340	377	336	224	294	551
1980	1025	1141	658	552	230	213	280	337	335	236	214	387
1981	890	1143	1023	547	315	256	432	498	470	384	401	717
1982	1037	864	344	417	374	292	199	193	241	206	210	248
1983	262	285	305	208	192	136	160	198	176	191	189	248
1984	309	296	210	198	265	277	397	459	390	240	251	465
1985	1035	983	313	258	268	263	484	482	442	357	409	792
1986	1089	1036	814	498	515	203	231	302	323	224	218	403
1987	1068	1324	1131	719	472	277	383	416	431	436	424	681
1988	877	1017	910	547	319	279	349	431	51	551	417	532
1989	655	762	1071	944	750	374	297	353	351	393	376	642
1990	1273	1607	1355	851	514	332	373	389	485	537	401	536
1991	792	1015	1280	1409	1220	549	412	386	359	374	502	765
Avg	844	932	803	602	473	324	357	385	396	355	333	539

Department of Water Resources, Delta Modeling Section

Table 1-4 (cont.)
Monthly Average Electrical Conductivity
 (Values in micro Siemens per centimeter)

Alternative DEFT1

Old River @ Rock Slough

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	738	675	655	533	461	289	282	427	562	525	462	858
1977	983	953	1145	1041	939	723	673	574	662	536	392	530
1978	692	722	699	341	256	337	267	262	264	208	199	474
1979	1172	1381	1073	515	382	301	316	352	296	210	329	647
1980	1183	1235	640	613	267	223	266	316	301	209	199	443
1981	1044	1314	1084	511	259	207	293	451	410	371	462	860
1982	1173	905	285	306	439	350	211	199	223	186	202	235
1983	237	247	384	239	211	142	162	205	206	184	176	221
1984	289	323	228	212	261	239	335	428	337	217	265	542
1985	1205	1051	276	218	221	216	309	434	390	341	477	958
1986	1235	1112	829	442	436	222	231	281	295	210	214	463
1987	1260	1502	1210	727	439	240	246	362	416	435	492	802
1988	997	1100	950	551	290	248	264	384	523	564	457	610
1989	691	810	1178	991	717	349	226	289	323	396	433	765
1990	1481	1780	1429	876	475	288	275	332	513	551	427	607
1991	892	1117	1450	1536	1196	455	285	325	319	381	583	887
Avg	955	1014	845	603	453	302	290	351	378	345	361	619

Old River @ Holland Tract

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	790	699	665	542	456	277	267	419	580	520	496	924
1977	1026	999	1186	1066	941	724	668	563	674	523	399	559
1978	729	725	685	323	239	322	277	260	253	201	199	516
1979	1277	1455	1080	501	356	281	288	342	282	208	351	692
1980	1268	1272	634	577	298	223	250	308	286	201	199	482
1981	1141	1392	1100	498	247	197	267	432	394	368	498	919
1982	1243	923	266	284	412	312	217	198	215	181	205	237
1983	227	234	386	261	225	148	161	206	205	176	172	214
1984	281	330	241	215	239	225	295	415	318	213	278	582
1985	1296	1075	266	210	212	205	272	414	377	337	516	1030
1986	1301	1147	834	426	405	232	216	272	281	207	219	502
1987	1370	1576	1230	732	428	231	229	344	422	432	531	854
1988	1054	1131	907	550	280	241	253	374	541	566	486	640
1989	711	849	1217	1009	695	340	214	269	326	396	465	819
1990	1592	1847	1445	887	458	276	259	317	538	553	445	649
1991	941	1168	1519	1576	1145	425	259	304	314	392	624	941
Avg	1015	1051	858	604	440	291	275	340	375	342	380	660

Department of Water Resources, Delta Modeling Section

Table 1-4 (cont.)
Monthly Average Electrical Conductivity
 (Values in micro Siemens per centimeter)

Alternative DEFT1

Middle River @ Tracy Road

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	521	523	611	502	468	396	378	532	516	473	310	437
1977	681	690	858	876	833	714	657	684	645	530	368	444
1978	584	745	913	840	579	340	309	263	328	461	248	584
1979	628	804	895	751	445	332	347	407	536	250	233	355
1980	696	881	855	605	237	220	279	358	368	428	246	289
1981	566	742	889	656	612	531	419	587	548	372	292	431
1982	728	740	667	671	394	240	200	236	269	375	480	468
1983	319	324	343	220	198	134	163	205	173	184	319	389
1984	340	309	224	214	277	352	403	508	450	269	222	320
1985	689	787	507	483	546	420	436	563	508	352	290	467
1986	762	842	826	922	586	201	225	311	329	235	216	284
1987	673	892	930	750	576	349	332	501	454	395	300	419
1988	636	850	841	528	342	321	346	519	513	481	318	432
1989	598	701	900	862	819	425	284	448	397	354	270	396
1990	849	1199	1148	783	531	390	360	479	452	462	337	391
1991	616	846	1026	1169	1143	829	414	472	418	346	362	529
Avg	618	742	777	677	537	387	347	442	432	373	301	415

Middle River @ Santa Fe Rail Road

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	530	520	538	454	435	351	373	532	505	457	307	440
1977	687	678	809	813	787	673	654	687	636	503	360	449
1978	599	749	739	468	387	370	265	261	294	261	238	301
1979	636	807	812	567	465	352	341	403	358	232	234	359
1980	723	875	601	646	259	222	277	353	349	269	235	295
1981	578	747	795	513	361	318	383	596	523	359	291	435
1982	753	717	364	455	507	372	208	198	248	228	219	266
1983	303	308	407	238	219	141	161	206	199	184	199	295
1984	336	336	233	218	276	287	374	511	430	258	221	324
1985	715	763	333	287	321	317	394	572	486	339	291	473
1986	772	826	691	530	566	218	227	302	325	225	214	289
1987	696	887	863	610	452	301	331	504	437	382	300	421
1988	649	837	758	476	306	295	359	530	504	465	312	441
1989	605	700	867	780	678	367	291	451	381	341	270	402
1990	889	1192	1077	702	477	353	375	477	447	446	333	391
1991	628	846	1027	1143	1076	588	406	477	404	333	360	537
Avg	631	737	682	556	473	345	339	441	408	330	274	382

Department of Water Resources, Delta Modeling Section

Table 1-4 (cont.)
Monthly Average Electrical Conductivity

(Values in micro Siemens per centimeter)

Alternative DEFT1

Middle River @ Mandeville Island

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	549	516	495	413	359	246	312	463	461	363	314	541
1977	713	711	854	787	711	567	579	560	535	372	283	365
1978	587	662	582	294	277	343	279	254	265	195	177	321
1979	791	982	777	423	401	294	318	399	267	186	243	414
1980	858	913	502	540	289	217	267	347	306	195	175	297
1981	692	924	779	390	237	200	384	573	365	275	317	542
1982	841	679	249	341	375	246	210	193	232	177	175	195
1983	245	266	332	258	224	148	157	203	177	174	169	268
1984	324	328	239	210	240	240	364	504	303	190	210	357
1985	868	768	240	208	217	205	383	538	347	257	324	603
1986	876	832	617	399	430	226	209	297	298	190	182	312
1987	866	1061	863	540	345	214	300	433	352	309	333	506
1988	713	829	703	436	251	222	284	426	432	388	311	394
1989	555	642	878	732	543	281	241	333	279	285	299	491
1990	1075	1311	1037	649	373	247	300	345	420	378	294	397
1991	653	862	1119	1167	877	358	320	374	279	287	401	569
Avg	700	768	642	487	384	266	307	390	332	264	263	411

Grant Line Canal @ Tracy Road

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	594	627	748	774	791	770	677	530	614	529	476	628
1977	763	816	758	849	965	995	871	691	712	562	505	629
1978	617	658	923	738	472	316	249	249	310	455	548	610
1979	743	939	787	644	402	311	366	445	553	614	592	645
1980	779	1068	806	518	221	209	304	396	353	418	522	617
1981	675	876	771	731	674	631	565	550	656	514	505	646
1982	838	958	827	611	328	224	191	190	253	364	471	456
1983	361	292	261	182	163	129	156	190	164	177	311	379
1984	363	280	202	194	248	332	449	511	574	593	645	666
1985	782	1054	762	769	777	732	637	544	615	511	503	651
1986	862	988	819	847	527	193	233	362	313	457	634	654
1987	784	1088	792	790	787	760	626	497	586	501	492	635
1988	718	906	931	949	967	981	751	507	612	547	529	669
1989	624	692	967	975	1019	968	670	454	529	495	566	851
1990	956	1372	1018	1013	1047	1006	718	494	548	557	612	838
1991	698	866	984	1034	1119	964	618	486	531	486	476	769
Avg	697	843	772	726	657	595	505	444	495	486	524	646

Department of Water Resources, Delta Modeling Section

Table 1-4 (cont.)
Monthly Average Electrical Conductivity

(Values in micro Siemens per centimeter)

Alternative DEFT1

Grant Line Canal @ West End

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	605	595	701	670	686	619	645	502	617	535	476	606
1977	788	803	812	880	942	888	868	674	716	568	516	625
1978	617	713	873	727	479	318	250	248	310	446	547	608
1979	797	1058	835	648	405	312	356	417	539	615	587	632
1980	838	1053	775	524	222	209	295	374	356	414	516	622
1981	723	988	856	708	664	622	546	529	659	523	503	626
1982	887	845	701	615	330	224	192	190	252	360	469	459
1983	360	293	267	185	167	130	155	191	165	176	304	382
1984	351	281	203	194	249	331	435	489	574	589	636	660
1985	835	942	627	743	738	664	620	523	617	519	500	632
1986	909	975	816	783	532	194	231	339	315	439	626	646
1987	851	1170	896	759	730	668	606	466	588	507	491	616
1988	747	952	911	797	681	707	728	480	616	552	532	670
1989	626	725	971	943	927	744	635	421	535	492	572	840
1990	1029	1464	1146	941	872	726	706	459	549	560	607	821
1991	711	935	1059	1171	1128	907	612	460	535	490	480	749
Avg	730	862	778	706	610	516	493	423	496	487	523	637

DMC Intake

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	609	597	663	598	610	524	612	488	555	525	423	610
1977	804	805	846	900	947	864	851	659	678	582	450	521
1978	631	716	832	633	475	326	251	249	318	370	309	439
1979	834	1072	900	636	414	317	351	401	408	317	354	521
1980	877	1059	728	569	229	218	290	360	366	357	299	444
1981	753	999	908	648	635	557	525	521	571	452	393	607
1982	913	841	562	625	374	231	207	192	261	280	301	364
1983	356	301	352	251	251	139	164	206	176	184	236	375
1984	337	315	207	195	253	338	426	478	493	338	351	487
1985	876	938	493	701	677	559	600	510	534	429	394	653
1986	941	975	808	688	556	200	232	325	328	318	328	443
1987	894	1176	965	736	639	559	578	450	490	466	402	589
1988	764	954	893	658	542	532	676	464	541	543	411	557
1989	624	726	975	925	892	557	582	400	425	421	384	611
1990	1080	1472	1209	882	801	583	666	437	492	531	497	557
1991	714	940	1094	1238	1123	776	594	440	440	400	452	694
Avg	750	868	777	680	589	455	475	411	442	407	374	530

Department of Water Resources, Delta Modeling Section

Table 1-4 (cont.)
Monthly Average Electrical Conductivity

(Values in micro Siemens per centimeter)

Alternative DEFT1

Clifton Court Forebay

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	628	617	628	529	492	374	435	463	528	555	387	649
1977	838	833	963	972	929	810	759	684	656	647	539	478
1978	562	686	771	464	354	335	288	269	296	254	224	370
1979	889	1131	1035	612	435	346	338	376	373	241	276	501
1980	912	1113	690	562	270	214	262	324	355	260	224	352
1981	798	1051	1025	603	368	300	420	487	521	413	375	648
1982	935	862	368	489	370	248	232	210	247	218	217	258
1983	281	300	300	235	209	161	156	198	171	183	199	260
1984	318	308	229	197	250	297	367	440	438	266	243	425
1985	920	974	347	302	307	296	441	483	487	386	377	713
1986	1001	1019	833	538	548	232	209	287	332	234	217	358
1987	943	1247	1120	750	511	313	393	423	445	451	394	621
1988	788	980	911	558	345	303	385	422	492	568	412	501
1989	613	723	997	948	798	417	327	361	371	401	352	578
1990	1108	1535	1367	865	558	379	410	415	456	554	395	490
1991	701	944	1173	1355	1282	669	452	427	393	377	446	670
Avg	765	895	797	624	502	356	367	392	410	376	330	492

Contra Costa Canal Intake

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	729	690	695	598	557	356	352	461	572	553	464	853
1977	988	946	1134	1068	990	780	712	607	672	572	422	530
1978	668	731	855	622	403	380	344	306	302	240	217	462
1979	1149	1384	1141	624	449	378	394	391	336	239	333	646
1980	1150	1270	733	943	472	287	325	351	341	240	216	434
1981	1026	1308	1145	597	322	278	363	483	447	400	458	851
1982	1162	961	658	389	597	456	319	240	257	215	216	250
1983	291	342	772	664	634	267	214	249	254	222	198	236
1984	317	426	307	277	330	323	412	460	380	248	280	536
1985	1167	1114	331	276	268	285	385	467	426	371	469	941
1986	1229	1130	900	805	578	342	287	320	335	241	231	453
1987	1223	1509	1253	799	519	328	325	403	438	462	486	805
1988	980	1100	1000	625	373	313	331	415	534	591	468	613
1989	688	792	1166	1037	804	431	298	335	350	423	426	757
1990	1430	1781	1476	945	567	349	320	373	520	578	443	608
1991	878	1092	1395	1530	1286	540	347	367	349	404	582	880
Avg	942	1036	935	737	572	381	358	389	407	375	369	616

Department of Water Resources, Delta Modeling Section

Table 1-4 (cont.)
Monthly Average Electrical Conductivity
 (Values in micro Siemens per centimeter)

Alternative DEFT1

Turner Cut

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	610	564	610	513	576	549	702	655	577	545	349	337
1977	770	642	755	816	835	811	924	912	861	547	553	779
1978	997	963	984	754	551	343	261	254	314	365	378	364
1979	558	563	741	782	449	326	349	421	428	297	241	324
1980	726	774	684	590	237	216	292	356	357	397	365	394
1981	539	533	714	639	650	606	594	665	652	468	283	309
1982	794	795	468	699	381	237	199	194	258	328	341	458
1983	381	315	294	217	187	135	159	198	170	180	254	385
1984	335	310	215	203	254	336	443	538	550	361	247	329
1985	696	730	456	498	620	600	665	634	612	445	280	320
1986	787	814	728	710	591	204	228	305	319	249	293	327
1987	628	600	740	640	610	446	663	614	540	453	280	312
1988	801	897	778	455	368	475	822	779	694	518	334	710
1989	941	961	920	788	869	428	621	690	585	377	244	307
1990	849	963	948	665	563	563	828	718	591	466	443	447
1991	890	982	980	1035	1039	861	762	646	630	393	345	610
Avg	706	713	688	625	549	446	532	536	509	399	327	420

Columbia Cut

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	521	494	489	410	366	259	321	490	461	373	283	470
1977	690	685	827	780	719	580	592	597	544	392	285	349
1978	571	686	609	322	322	358	288	259	275	207	178	281
1979	670	872	773	452	417	312	323	402	285	189	224	359
1980	754	855	510	579	319	222	268	350	322	210	178	261
1981	601	819	764	409	254	217	384	595	397	283	283	464
1982	766	643	267	362	420	280	217	196	239	185	173	208
1983	279	284	377	277	236	151	158	206	186	175	173	280
1984	329	346	255	220	246	254	362	512	329	196	200	312
1985	753	708	252	216	229	218	385	559	375	265	287	514
1986	804	807	618	426	468	239	210	297	307	196	179	274
1987	739	956	846	543	361	226	306	463	362	316	296	441
1988	661	816	699	437	260	230	293	459	433	393	291	372
1989	548	641	854	728	565	296	249	367	288	288	269	425
1990	949	1237	1033	645	393	261	312	379	410	382	283	365
1991	613	834	1075	1149	922	402	336	409	297	285	374	525
Avg	641	730	641	497	406	282	313	409	344	271	247	369

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Figure 1-4
Distance Reference for X2 Tables
(values shown in kilometers from Golden Gate)

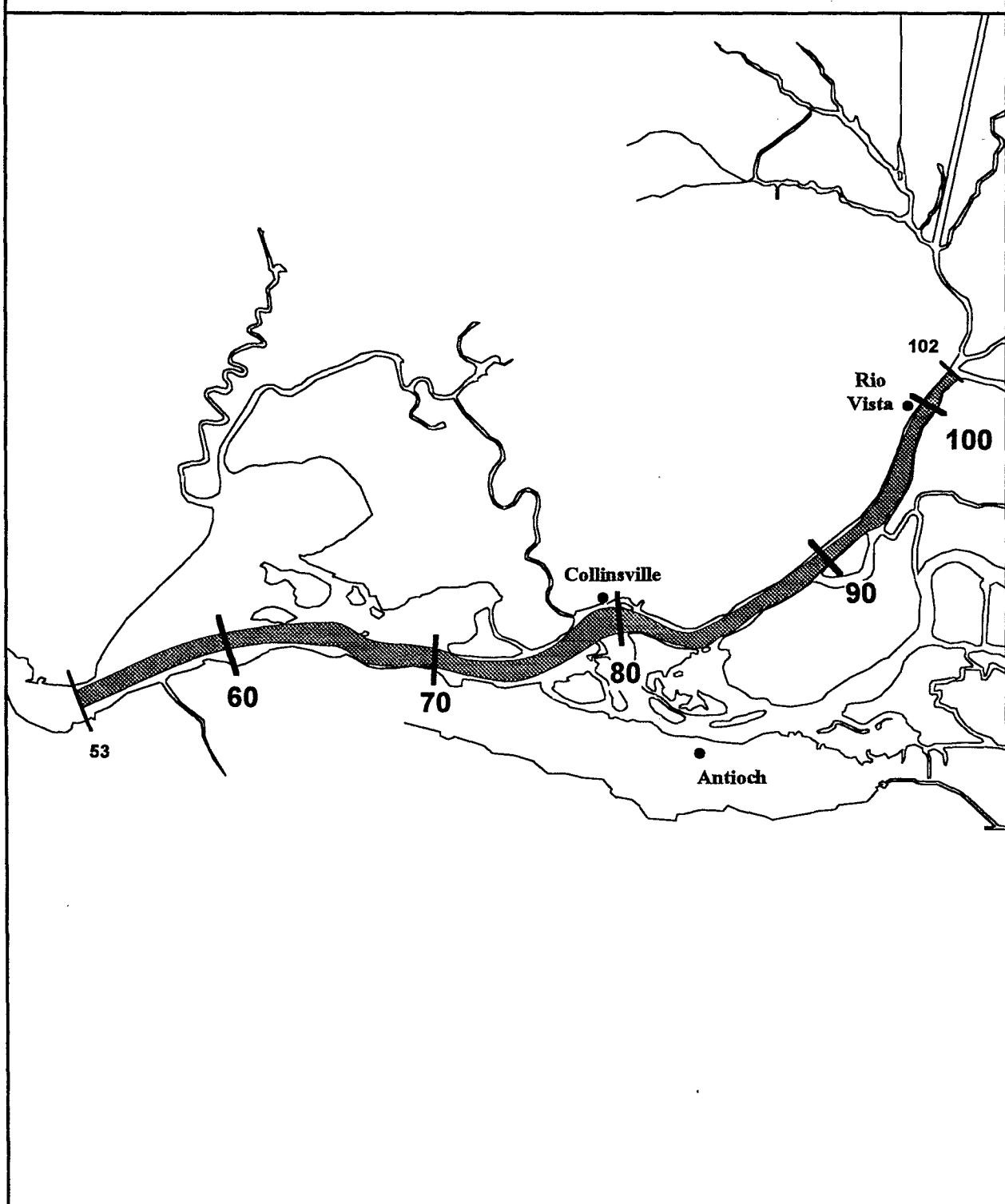


Table 1-5
Monthly Average Location of 2640 micro Siemens/cm, EC

(Values in km from Golden Gate)
(Benicia Assumed to be at 53.1 km from Golden gate)
(Hydrology from DWRSIM Study 516)

Alternative DEFT1

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	77.6	78.9	79.0	78.5	71.9	70.3	78.3	83.5	82.7	82.7	84.4	87.1
1977	86.3	87.5	87.8	86.9	85.5	85.9	84.2	84.9	82.9	82.9	85.9	88.4
1978	86.7	86.3	75.9	59.3	57.4	56.0	57.6	61.4	64.6	70.6	77.1	84.1
1979	85.3	85.1	82.7	66.3	60.0	60.8	62.1	64.6	69.0	73.2	79.6	84.3
1980	84.6	79.8	68.4	58.7	*	56.8	61.7	62.4	64.9	71.3	77.6	84.1
1981	85.7	85.7	80.0	67.7	62.4	62.3	62.9	69.6	77.5	81.4	82.2	85.0
1982	85.4	66.8	57.5	*	*	*	*	57.8	61.9	68.4	75.6	74.0
1983	65.0	60.8	56.8	*	*	*	56.1	57.4	56.2	60.7	65.6	62.6
1984	62.0	57.4	*	55.9	59.6	60.8	62.2	63.1	69.9	72.6	76.5	83.2
1985	84.3	67.7	64.4	68.2	65.8	67.1	68.9	72.8	77.1	80.8	82.6	85.4
1986	85.9	84.9	74.7	63.8	57.8	*	61.0	62.3	66.3	71.3	76.1	83.9
1987	85.7	86.5	83.9	78.0	67.9	63.1	71.0	77.9	81.2	82.2	82.6	85.2
1988	87.0	87.8	79.9	68.9	71.5	73.1	78.1	82.7	82.9	84.2	85.2	88.0
1989	86.4	87.0	87.0	83.3	80.9	63.9	62.1	71.2	79.2	81.6	81.3	85.2
1990	86.2	87.1	85.6	75.9	71.9	73.7	74.0	80.6	82.9	84.0	85.9	87.8
1991	86.7	88.3	89.9	88.6	81.2	64.2	64.4	73.8	77.9	84.3	88.8	88.8
Avg	82.5	79.8	**	**	**	**	**	70.4	73.6	77.0	80.4	83.6

* Values Downstream of Model Boundary - Benicia

** 16 Year Average not Reported - Contains Values Downstream of Benicia.

Department of Water Resources, Delta Modeling Section

Figure 1-5
Output Locations for Minimum Water Levels

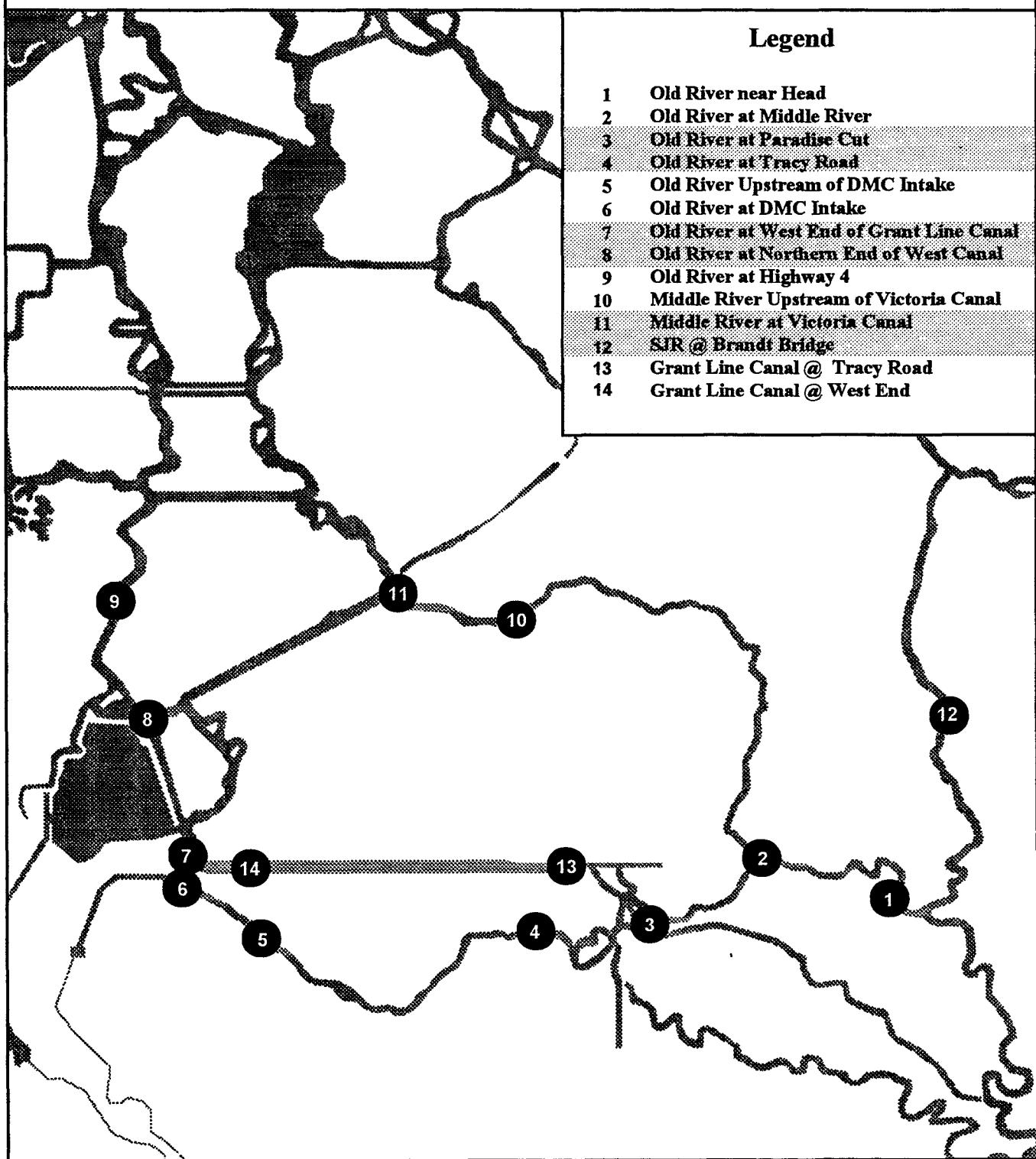


Table 1-6
Minimum Water Levels

(Values in feet above mean sea level)

Alternative DEFT1

Old River near Head

Year	Apr (1-15)	Apr (16-30)	May	Jun	Jul	Aug	Sep
1976	0.95	-0.71	-0.77	1.28	1.78	1.57	1.39
1977	0.68	-0.59	-0.72	1.64	1.29	1.66	1.71
1978	5.95	5.95	4.32	3.37	1.76	1.60	1.60
1979	2.57	-0.54	-0.64	1.39	1.44	1.37	1.51
1980	2.52	-0.52	-0.57	3.30	2.06	1.57	1.75
1981	1.98	-0.63	-0.74	1.38	1.46	1.48	1.35
1982	9.37	9.38	6.02	4.43	2.06	1.70	2.54
1983	7.48	7.48	7.09	12.00	6.57	1.83	3.63
1984	2.44	-0.59	-0.63	1.66	1.50	1.41	1.55
1985	1.50	-0.63	-0.67	1.42	1.46	1.49	1.33
1986	3.64	3.64	-0.57	3.89	1.43	1.55	1.55
1987	1.01	-0.65	-0.73	1.32	1.48	1.46	1.37
1988	0.62	-0.65	-0.70	1.54	1.58	1.49	1.77
1989	0.68	-0.59	-0.70	1.56	1.33	1.35	1.33
1990	0.63	-0.57	-0.74	1.52	1.47	1.57	1.40
1991	0.84	-0.58	-0.66	1.64	1.35	1.34	1.57
Avg	2.68	1.20	0.54	2.71	1.88	1.53	1.71

Old River @ Middle River

Year	Apr (1-15)	Apr (16-30)	May	Jun	Jul	Aug	Sep
1976	0.44	-0.67	-0.72	1.23	1.74	1.52	1.34
1977	0.32	-0.55	-0.68	1.58	1.27	1.63	1.68
1978	3.91	3.91	2.71	2.53	1.56	1.53	1.37
1979	1.55	-0.50	-0.60	1.33	1.38	1.25	1.37
1980	1.53	-0.47	-0.53	2.49	1.72	1.50	1.52
1981	1.14	-0.58	-0.69	1.32	1.41	1.41	1.25
1982	5.87	5.88	3.94	3.21	1.65	1.48	1.94
1983	4.51	4.51	4.20	7.58	4.73	1.60	2.76
1984	1.44	-0.55	-0.59	1.58	1.43	1.28	1.38
1985	0.84	-0.59	-0.63	1.36	1.41	1.42	1.23
1986	2.28	2.28	0.53	2.87	1.31	1.46	1.38
1987	0.51	-0.61	-0.69	1.27	1.43	1.40	1.31
1988	0.26	-0.61	-0.66	1.48	1.53	1.46	1.72
1989	0.32	-0.55	-0.66	1.50	1.30	1.32	1.26
1990	0.30	-0.52	-0.70	1.46	1.44	1.53	1.36
1991	0.43	-0.54	-0.62	1.58	1.32	1.32	1.54
Avg	1.60	0.62	0.16	2.15	1.66	1.44	1.53

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Table1-6 (cont.)
Minimum Water Levels

(Values in feet above mean sea level)

Alternative DEFT1

Old River near Paradise Cut

Year	Apr (1-15)	Apr (16-30)	May	Jun	Jul	Aug	Sep
1976	0.10	-0.58	-0.63	1.24	1.71	1.48	1.25
1977	0.08	-0.46	-0.59	1.59	1.27	1.62	1.65
1978	2.23	2.23	1.44	2.05	1.43	1.36	1.23
1979	0.79	-0.41	-0.51	1.31	1.28	1.13	1.24
1980	0.79	-0.38	-0.44	2.03	1.52	1.35	1.31
1981	0.52	-0.49	-0.60	1.32	1.38	1.37	1.15
1982	3.06	3.09	2.24	2.48	1.40	1.33	1.60
1983	2.24	2.24	2.00	3.68	3.55	1.41	2.24
1984	0.71	-0.45	-0.49	1.44	1.32	1.14	1.22
1985	0.36	-0.49	-0.54	1.35	1.38	1.37	1.12
1986	1.23	1.23	-0.43	2.28	1.20	1.31	1.23
1987	0.16	-0.52	-0.60	1.28	1.39	1.36	1.22
1988	0.03	-0.51	-0.57	1.49	1.55	1.48	1.69
1989	0.08	-0.46	-0.56	1.50	1.31	1.30	1.17
1990	0.07	-0.43	-0.60	1.47	1.45	1.56	1.30
1991	0.15	-0.44	-0.52	1.60	1.31	1.32	1.56
Avg	0.79	0.20	-0.09	1.76	1.53	1.37	1.39

Old River @ Tracy Road

Year	Apr (1-15)	Apr (16-30)	May	Jun	Jul	Aug	Sep
1976	0.19	-0.29	-0.36	1.05	1.76	1.56	1.01
1977	0.25	-0.12	-0.29	1.57	1.12	1.65	1.72
1978	2.18	2.18	1.40	1.69	1.19	1.10	1.00
1979	0.80	-0.13	-0.23	1.09	1.02	0.92	1.02
1980	0.81	-0.09	-0.15	1.68	1.26	1.09	1.07
1981	0.56	-0.20	-0.31	1.10	1.17	1.44	0.94
1982	2.24	2.32	2.18	2.02	1.11	1.09	1.30
1983	1.56	1.56	1.34	2.50	2.92	1.16	1.90
1984	0.72	-0.18	-0.21	1.18	1.07	0.92	1.01
1985	0.43	-0.20	-0.24	1.11	1.15	1.45	0.93
1986	1.21	1.21	-0.15	1.89	1.00	1.05	1.01
1987	0.27	-0.22	-0.31	1.07	1.16	1.43	0.98
1988	0.18	-0.21	-0.27	1.46	1.54	1.49	1.76
1989	0.22	-0.16	-0.27	1.48	1.11	1.39	0.96
1990	0.26	-0.09	-0.32	1.44	1.44	1.55	1.06
1991	0.30	-0.13	-0.23	1.58	1.29	1.32	1.56
Avg	0.76	0.33	0.10	1.49	1.33	1.29	1.20

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Table 1-6 (cont.)
Minimum Water Levels

(Values in feet above mean sea level)

Alternative DEFT1

Old River Upstream of DMC Intake

Year	Apr (1-15)	Apr (16-30)	May	Jun	Jul	Aug	Sep
1976	0.36	0.00	-0.08	0.84	1.60	1.41	0.72
1977	0.45	0.16	0.00	1.46	0.90	1.52	1.57
1978	2.10	2.10	1.40	1.23	0.94	0.78	0.72
1979	0.88	0.16	0.04	0.88	0.73	0.66	0.71
1980	0.90	0.20	0.13	1.23	0.96	0.78	0.74
1981	0.71	0.08	-0.04	0.87	0.92	1.29	0.66
1982	1.31	1.42	2.10	1.39	0.79	0.80	0.90
1983	0.81	0.81	0.62	0.90	2.02	0.86	1.38
1984	0.81	0.10	0.06	0.91	0.79	0.65	0.70
1985	0.56	0.08	0.04	0.88	0.91	1.30	0.65
1986	1.22	1.22	0.13	1.36	0.77	0.75	0.69
1987	0.44	0.07	-0.04	0.85	0.92	1.28	0.70
1988	0.36	0.09	0.01	1.37	1.42	1.40	1.60
1989	0.41	0.12	0.01	1.39	0.88	1.25	0.68
1990	0.45	0.16	-0.04	1.38	1.40	1.47	0.78
1991	0.48	0.14	0.07	1.47	1.28	1.32	1.47
Avg	0.77	0.43	0.28	1.15	1.08	1.10	0.92

Old River @ DMC Intake

Year	Apr (1-15)	Apr (16-30)	May	Jun	Jul	Aug	Sep
1976	-0.58	-0.74	-0.77	-1.15	-1.10	-1.12	-1.30
1977	-0.56	-0.69	-0.75	-1.09	-1.11	-1.08	-1.16
1978	0.17	0.17	-0.13	-1.13	-1.14	-1.28	-1.32
1979	-0.32	-0.59	-0.65	-1.16	-1.27	-1.31	-1.31
1980	-0.30	-0.57	-0.61	-1.11	-1.15	-1.28	-1.32
1981	-0.44	-0.67	-0.74	-1.15	-1.11	-1.31	-1.32
1982	1.18	1.18	0.19	-1.14	-1.27	-1.28	-1.25
1983	0.70	0.70	0.53	0.68	-1.06	-1.23	-1.04
1984	-0.35	-0.62	-0.65	-1.15	-1.22	-1.31	-1.31
1985	-0.47	-0.66	-0.70	-1.15	-1.12	-1.31	-1.32
1986	-0.16	-0.16	-0.60	-1.11	-1.16	-1.28	-1.32
1987	-0.54	-0.70	-0.74	-1.15	-1.12	-1.31	-1.31
1988	-0.58	-0.71	-0.74	-1.18	-1.16	-1.28	-1.17
1989	-0.51	-0.64	-0.73	-1.13	-1.12	-1.30	-1.32
1990	-0.54	-0.66	-0.76	-1.13	-1.11	-1.08	-1.25
1991	-0.51	-0.65	-0.72	-1.11	-1.13	-1.14	-1.19
Avg	-0.24	-0.38	-0.54	-1.02	-1.15	-1.24	-1.26

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Table 1-6 (cont.)
Minimum Water Levels

(Values in feet above mean sea level)

Alternative DEFT1

Old River @ West End of Grant Line Canal

Year	Apr (1-15)	Apr (16-30)	May	Jun	Jul	Aug	Sep
1976	-0.57	-0.73	-0.75	-1.10	-1.06	-1.08	-1.21
1977	-0.55	-0.68	-0.74	-1.06	-1.07	-1.04	-1.11
1978	0.18	0.18	-0.12	-1.07	-1.09	-1.18	-1.22
1979	-0.31	-0.58	-0.64	-1.10	-1.17	-1.22	-1.21
1980	-0.30	-0.56	-0.60	-1.05	-1.10	-1.18	-1.22
1981	-0.43	-0.66	-0.73	-1.10	-1.06	-1.22	-1.22
1982	1.18	1.18	0.20	-1.05	-1.18	-1.19	-1.15
1983	0.71	0.71	0.54	0.69	-0.96	-1.14	-0.98
1984	-0.34	-0.61	-0.64	-1.10	-1.14	-1.21	-1.22
1985	-0.46	-0.65	-0.69	-1.10	-1.08	-1.22	-1.23
1986	-0.15	-0.15	-0.59	-1.04	-1.11	-1.18	-1.22
1987	-0.53	-0.69	-0.73	-1.10	-1.07	-1.22	-1.21
1988	-0.57	-0.70	-0.73	-1.13	-1.11	-1.19	-1.12
1989	-0.50	-0.63	-0.72	-1.10	-1.07	-1.21	-1.22
1990	-0.53	-0.65	-0.75	-1.09	-1.07	-1.04	-1.17
1991	-0.50	-0.64	-0.70	-1.07	-1.09	-1.10	-1.13
Avg	-0.23	-0.37	-0.52	-0.97	-1.09	-1.16	-1.18

Old River @ Northern End of West Canal

Year	Apr (1-15)	Apr (16-30)	May	Jun	Jul	Aug	Sep
1976	-0.59	-0.70	-0.72	-1.00	-0.97	-1.00	-1.10
1977	-0.56	-0.65	-0.71	-0.97	-0.97	-0.96	-1.02
1978	0.01	0.01	-0.23	-0.95	-0.98	-1.07	-1.11
1979	-0.37	-0.55	-0.61	-1.00	-1.07	-1.11	-1.11
1980	-0.36	-0.53	-0.57	-0.94	-0.99	-1.07	-1.11
1981	-0.47	-0.62	-0.69	-1.00	-0.96	-1.12	-1.12
1982	0.90	0.91	0.03	-0.92	-1.07	-1.08	-1.04
1983	0.50	0.50	0.35	0.40	-0.82	-1.03	-0.86
1984	-0.40	-0.58	-0.60	-0.99	-1.04	-1.11	-1.11
1985	-0.49	-0.62	-0.66	-1.00	-0.97	-1.12	-1.12
1986	-0.25	-0.25	-0.56	-0.92	-1.01	-1.08	-1.12
1987	-0.55	-0.66	-0.70	-1.00	-0.97	-1.12	-1.11
1988	-0.58	-0.67	-0.70	-1.04	-1.02	-1.09	-1.03
1989	-0.51	-0.60	-0.69	-1.01	-0.97	-1.11	-1.12
1990	-0.55	-0.63	-0.71	-1.01	-0.99	-0.96	-1.06
1991	-0.52	-0.62	-0.68	-0.98	-1.01	-1.01	-1.04
Avg	-0.30	-0.39	-0.53	-0.90	-0.99	-1.07	-1.07

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Table 1-6 (cont.)
Minimum Water Levels

(Values in feet above mean sea level)

Alternative DEFT1

Old River @ Highway 4

Year	Apr (1-15)	Apr (16-30)	May	Jun	Jul	Aug	Sep
1976	-0.54	-0.62	-0.64	-0.92	-0.88	-0.92	-1.02
1977	-0.51	-0.58	-0.63	-0.89	-0.88	-0.87	-0.94
1978	-0.01	-0.01	-0.23	-0.88	-0.91	-0.99	-1.04
1979	-0.34	-0.47	-0.53	-0.92	-0.99	-1.03	-1.02
1980	-0.33	-0.46	-0.49	-0.86	-0.92	-0.99	-1.03
1981	-0.43	-0.54	-0.61	-0.92	-0.88	-1.03	-1.03
1982	0.80	0.80	0.00	-0.85	-0.99	-1.00	-0.96
1983	0.43	0.43	0.29	0.38	-0.75	-0.96	-0.79
1984	-0.37	-0.50	-0.53	-0.92	-0.96	-1.03	-1.03
1985	-0.45	-0.55	-0.58	-0.92	-0.89	-1.03	-1.04
1986	-0.24	-0.24	-0.48	-0.85	-0.94	-1.00	-1.03
1987	-0.50	-0.58	-0.62	-0.92	-0.89	-1.03	-1.02
1988	-0.53	-0.60	-0.62	-0.95	-0.93	-1.00	-0.94
1989	-0.46	-0.53	-0.61	-0.92	-0.89	-1.02	-1.03
1990	-0.50	-0.56	-0.63	-0.92	-0.90	-0.87	-0.98
1991	-0.47	-0.54	-0.60	-0.90	-0.92	-0.92	-0.95
Avg	-0.28	-0.35	-0.47	-0.82	-0.91	-0.98	-0.99

Middle River Upstream of Victoria Canal

Year	Apr (1-15)	Apr (16-30)	May	Jun	Jul	Aug	Sep
1976	1.45	1.20	1.04	1.25	1.86	1.67	1.55
1977	1.72	1.57	1.22	1.60	1.49	1.82	1.84
1978	3.84	3.84	2.68	1.10	0.89	1.70	0.72
1979	2.10	1.48	1.23	0.85	1.48	1.40	1.57
1980	2.15	1.57	1.41	1.11	0.90	1.69	1.75
1981	1.89	1.39	1.11	1.31	1.55	1.53	1.45
1982	0.93	0.93	3.82	1.24	0.74	0.82	0.85
1983	0.46	0.46	0.30	0.52	1.73	0.88	1.27
1984	1.99	1.41	1.26	1.53	1.51	1.40	1.58
1985	1.77	1.37	1.26	1.37	1.55	1.54	1.43
1986	2.52	2.52	1.40	1.19	1.40	1.62	.56
1987	1.62	1.34	1.12	1.30	1.58	1.52	1.49
1988	1.59	1.45	1.26	1.46	1.64	1.64	1.89
1989	1.62	1.43	1.26	1.49	1.49	1.49	1.47
1990	1.74	1.60	1.13	1.46	1.59	1.70	1.59
1991	1.77	1.55	1.38	1.63	1.36	1.52	1.74
Avg	1.82	1.57	1.43	1.28	1.42	1.50	1.48

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Table 1-6 (cont.)
Minimum Water Levels

(Values in feet above mean sea level)

Alternative DEFT1

Middle River @ Victoria Canal

Year	Apr (1-15)	Apr (16-30)	May	Jun	Jul	Aug	Sep
1976	-0.59	-0.67	-0.69	-0.95	-0.92	-0.95	-0.99
1977	-0.57	-0.63	-0.69	-0.93	-0.92	-0.92	-0.97
1978	-0.07	-0.07	-0.30	-0.89	-0.92	-0.97	-1.01
1979	-0.40	-0.52	-0.58	-0.94	-0.96	-1.00	-0.99
1980	-0.39	-0.51	-0.54	-0.87	-0.92	-0.97	-1.00
1981	-0.48	-0.59	-0.66	-0.95	-0.92	-1.01	-1.00
1982	0.81	0.81	-0.05	-0.84	-0.96	-0.97	-0.93
1983	0.43	0.43	0.28	0.40	-0.74	-0.92	-0.79
1984	-0.43	-0.55	-0.58	-0.94	-0.94	-0.99	-1.00
1985	-0.50	-0.60	-0.63	-0.95	-0.93	-1.02	-1.01
1986	-0.30	-0.30	-0.53	-0.87	-0.94	-0.97	-1.00
1987	-0.56	-0.64	-0.67	-0.95	-0.92	-1.02	-0.99
1988	-0.59	-0.65	-0.67	-0.98	-0.96	-0.99	-0.97
1989	-0.51	-0.58	-0.66	-0.96	-0.92	-1.00	-1.00
1990	-0.55	-0.61	-0.69	-0.96	-0.94	-0.92	-0.98
1991	-0.52	-0.59	-0.65	-0.93	-0.96	-0.96	-0.98
Avg	-0.33	-0.39	-0.52	-0.84	-0.92	-0.97	-0.98

SJR @ Brandt Bridge

Year	Apr (1-15)	Apr (16-30)	May	Jun	Jul	Aug	Sep
1976	0.21	1.30	1.26	-0.04	0.25	0.17	0.00
1977	0.10	0.88	0.76	0.16	-0.02	0.18	0.20
1978	3.65	3.65	2.40	1.26	0.22	0.09	0.13
1979	1.20	3.79	3.72	0.02	0.02	-0.02	0.05
1980	1.28	3.82	3.89	1.31	0.43	0.08	0.18
1981	0.82	2.93	2.84	0.00	0.04	0.10	-0.03
1982	7.14	7.14	4.01	2.27	0.44	0.19	0.76
1983	5.45	5.45	5.09	9.52	4.16	0.27	1.50
1984	1.22	3.75	3.39	0.14	0.06	0.00	0.07
1985	0.54	2.12	2.08	0.01	0.04	0.10	-0.04
1986	1.93	1.93	4.61	1.80	0.02	0.06	0.06
1987	0.26	1.36	1.29	-0.03	0.05	0.08	-0.02
1988	0.06	0.82	0.78	0.09	0.13	0.08	0.24
1989	0.13	0.90	0.66	0.11	0.00	0.04	-0.04
1990	0.08	0.79	0.53	0.09	0.09	0.13	0.00
1991	0.20	1.08	0.76	0.16	0.02	0.01	0.12
Avg	1.52	2.61	2.38	1.05	0.37	0.10	0.20

Department of Water Resources, Delta Modeling Section

Table 1-6 (cont.)
Minimum Water Levels

(Values in feet above mean sea level)

Alternative DEFT1

Grant Line Canal @ Tracy Road

Year	Apr (1-15)	Apr (16-30)	May	Jun	Jul	Aug	Sep
1976	0.00	-0.58	-0.62	1.14	1.62	1.44	1.24
1977	-0.02	-0.48	-0.59	1.46	1.19	1.52	1.56
1978	1.82	1.82	1.13	2.05	1.47	1.40	1.27
1979	0.57	-0.42	-0.50	1.22	1.26	1.18	1.28
1980	0.58	-0.40	-0.44	2.03	1.55	1.38	1.35
1981	0.35	-0.50	-0.59	1.22	1.31	1.33	1.19
1982	2.69	2.71	1.83	2.44	1.42	1.37	1.61
1983	1.94	1.94	1.72	3.09	3.47	1.45	2.23
1984	0.51	-0.46	-0.49	1.46	1.32	1.19	1.26
1985	0.22	-0.50	-0.54	1.26	1.31	1.34	1.16
1986	0.95	0.95	-0.44	2.27	1.25	1.34	1.27
1987	0.04	-0.53	-0.59	1.18	1.32	1.33	1.20
1988	-0.06	-0.53	-0.57	1.36	1.42	1.35	1.62
1989	0.00	-0.47	-0.57	1.38	1.21	1.27	1.17
1990	-0.02	-0.46	-0.60	1.35	1.35	1.43	1.25
1991	0.04	-0.46	-0.54	1.47	1.23	1.25	1.43
Avg	0.60	0.10	-0.15	1.65	1.48	1.35	1.38

Grant Line Canal @ West End

Year	Apr (1-15)	Apr (16-30)	May	Jun	Jul	Aug	Sep
1976	-0.31	-0.60	-0.63	1.17	1.54	1.31	1.20
1977	-0.30	-0.53	-0.61	1.45	1.21	1.46	1.47
1978	0.83	0.83	0.38	1.89	1.39	1.30	1.19
1979	0.06	-0.45	-0.52	1.28	1.22	1.11	1.19
1980	0.07	-0.43	-0.47	1.88	1.45	1.28	1.26
1981	-0.10	-0.52	-0.60	1.27	1.36	1.20	1.12
1982	1.77	1.79	0.85	2.22	1.32	1.28	1.48
1983	1.20	1.20	1.00	1.63	3.13	1.36	2.05
1984	0.01	-0.48	-0.51	1.39	1.27	1.12	1.19
1985	-0.16	-0.52	-0.56	1.31	1.35	1.20	1.11
1986	0.29	0.29	-0.46	2.08	1.20	1.25	1.19
1987	-0.26	-0.56	-0.60	1.22	1.36	1.19	1.16
1988	-0.33	-0.56	-0.59	1.36	1.39	1.31	1.50
1989	-0.26	-0.50	-0.59	1.39	1.24	1.14	1.13
1990	-0.28	-0.51	-0.62	1.37	1.37	1.41	1.25
1991	-0.24	-0.50	-0.57	1.44	1.28	1.30	1.38
Avg	0.12	-0.13	-0.32	1.52	1.44	1.26	1.30

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Appendix B

Alternative DEFT2

Delta Modeling Assumptions and Results

Figure 2-1
Alternative DEFT2

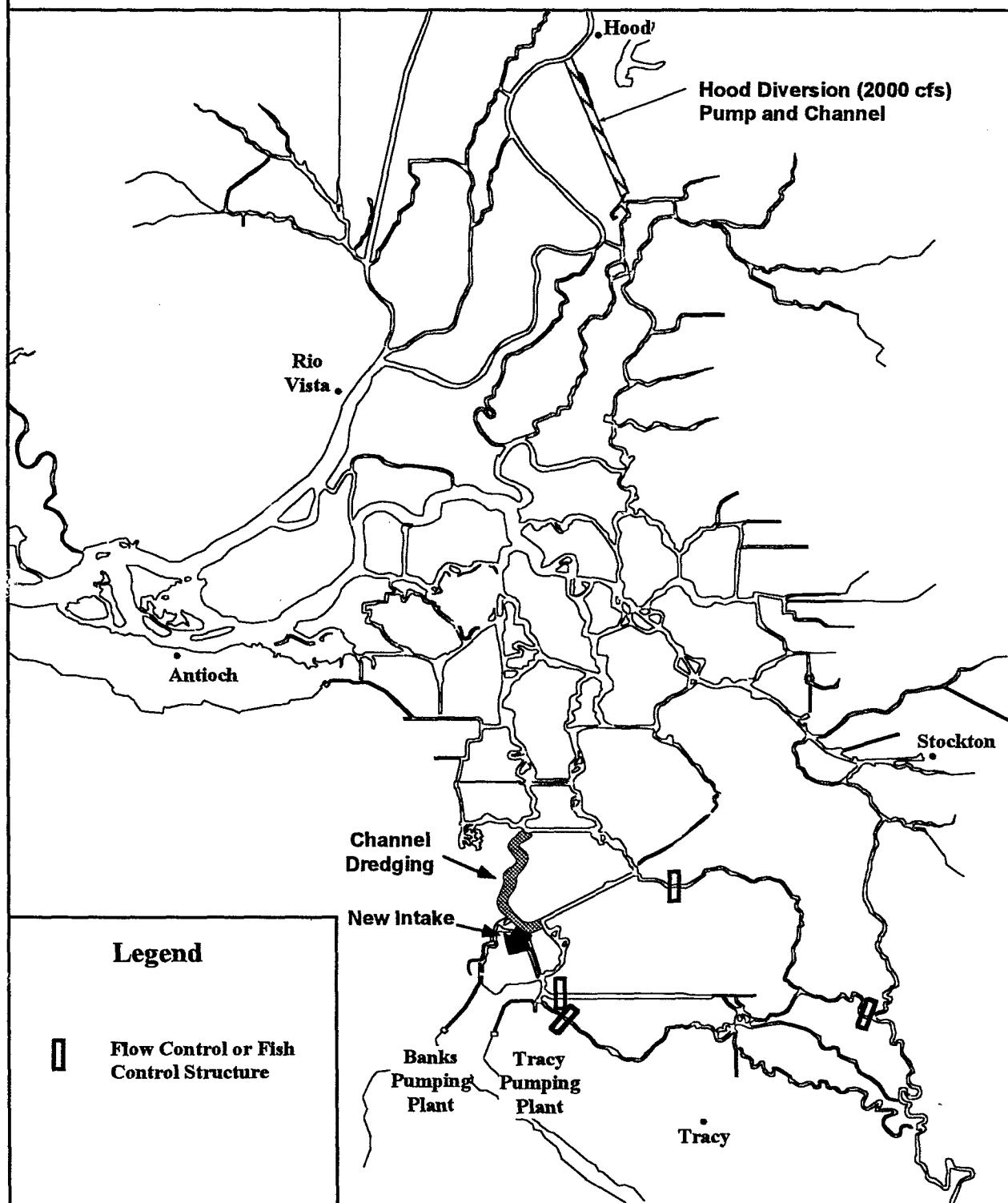


Table 2-1
Delta Hydrology for Alternative DEFT2 (DWRSIM Study 689)
Water Years 1976 - 1991
 (values in cfs)

Sacramento River Inflow at I Street

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	20,861	16,399	14,652	14,880	19,948	17,405	8,206	9,858	12,625	10,547	14,901	13,161
1977	9,805	8,008	7,669	8,690	8,907	7,826	8,401	7,579	12,465	9,225	6,517	7,795
1978	5,820	5,268	11,946	48,475	50,654	45,911	37,158	19,455	14,678	18,726	12,945	16,574
1979	13,171	13,085	12,001	24,525	41,653	32,675	18,182	12,562	17,059	17,738	19,308	16,255
1980	13,393	16,030	20,647	54,938	71,146	36,143	19,964	15,441	13,790	17,658	12,048	15,943
1981	12,123	11,912	15,595	22,965	29,512	31,152	17,639	12,249	10,786	11,190	19,812	17,101
1982	10,814	31,644	68,775	51,089	67,764	68,818	74,342	37,372	22,409	21,824	16,227	19,850
1983	23,331	38,478	56,655	59,978	83,167	81,983	68,331	54,463	55,479	23,361	19,769	27,482
1984	25,028	62,800	82,951	47,139	36,767	35,161	16,069	14,817	14,819	18,210	20,785	17,157
1985	13,358	32,960	23,743	16,912	19,103	17,930	12,781	10,757	11,857	11,565	19,652	17,411
1986	10,134	10,287	16,732	24,158	97,898	71,604	22,186	13,900	11,415	22,794	16,554	15,747
1987	13,024	10,852	12,818	15,890	21,816	25,949	10,314	10,149	11,967	11,086	19,757	15,683
1988	8,984	7,415	15,746	27,212	14,165	14,971	8,629	9,388	12,530	11,257	13,369	8,029
1989	7,771	8,527	8,883	13,512	9,636	41,505	25,483	11,833	11,422	12,072	20,355	15,485
1990	12,601	10,724	10,347	20,438	15,820	13,680	11,513	9,610	12,667	11,374	10,381	10,593
1991	9,831	7,749	6,974	7,999	11,968	30,078	16,493	9,925	11,107	11,000	8,708	8,930

San Joaquin River at Vernalis

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	4,066	1,865	1,854	1,594	2,017	1,724	3,193	3,204	1,294	1,301	1,334	1,227
1977	2,813	2,134	1,708	1,252	1,242	1,155	2,000	2,000	1,260	894	732	975
1978	1,269	1,294	1,415	3,236	7,184	10,652	15,109	11,287	7,210	2,944	1,756	2,672
1979	4,212	1,933	1,773	3,952	8,967	8,749	7,008	6,993	1,916	1,659	1,626	1,781
1980	1,838	1,697	1,870	11,482	19,558	14,100	7,008	7,188	7,176	3,854	1,675	2,639
1981	4,814	1,882	1,724	2,163	2,521	3,009	5,697	5,692	1,479	1,317	1,431	1,344
1982	1,691	1,681	1,675	5,383	14,621	15,206	26,738	15,889	10,218	4,180	2,700	5,143
1983	8,749	8,991	19,011	24,785	36,462	41,145	20,839	19,873	36,402	15,645	3,025	7,462
1984	7,644	13,899	21,418	15,125	9,631	5,969	7,008	6,456	2,302	1,740	1,838	2,000
1985	1,952	1,865	1,854	1,610	2,035	2,163	4,454	4,456	1,529	1,317	1,447	1,344
1986	1,659	1,647	1,675	1,626	15,377	24,199	9,462	8,359	8,773	1,789	1,756	2,034
1987	3,431	1,815	1,659	1,578	1,927	1,952	3,193	3,204	1,344	1,350	1,382	1,294
1988	1,366	1,328	1,236	1,203	1,200	1,220	2,000	2,000	1,277	1,041	862	1,193
1989	1,269	1,176	1,236	1,138	1,206	1,529	2,050	1,724	1,260	1,057	878	1,193
1990	1,220	1,210	1,138	1,073	1,206	1,285	1,765	1,512	1,193	732	797	1,160
1991	1,187	1,193	1,122	992	954	2,261	2,454	1,887	1,193	748	439	790

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Table 2-1 (cont.)
Delta Hydrology for Alternative DEFT2 (DWRSIM Study 689)
Water Years 1976 - 1991

(values in cfs)

Yolo Bypass Inflow

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	114	0	65	16	17	163	118	81	84	98	423	202
1977	49	17	33	49	36	114	151	618	151	211	114	50
1978	49	134	683	14,328	6,878	16,816	1,042	49	134	293	130	101
1979	49	67	16	683	612	195	50	65	67	163	49	50
1980	33	67	976	31,436	42,193	15,092	50	309	336	276	244	50
1981	49	50	98	407	576	146	50	65	185	163	114	50
1982	16	3,227	23,272	20,784	22,165	5,155	36,486	407	67	130	49	17
1983	81	1,529	10,603	20,865	58,628	113,499	15,377	3,155	908	49	49	50
1984	33	5,311	46,561	14,994	852	537	101	81	67	65	49	50
1985	1,382	992	33	130	180	16	50	65	67	49	49	50
1986	33	202	634	33	89,382	55,213	1,076	65	67	49	49	50
1987	49	34	81	98	198	374	84	65	67	49	49	50
1988	33	67	407	1,220	87	65	84	65	50	49	49	50
1989	49	50	146	65	72	455	134	65	67	49	49	17
1990	0	34	33	244	702	33	185	33	67	49	49	50
1991	98	0	49	33	72	634	50	65	67	49	49	50

Contra Costa Canal Diversion

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	211	185	146	114	104	195	168	228	235	309	260	269
1977	228	185	179	130	162	195	168	228	235	309	260	269
1978	228	185	179	130	162	98	101	211	269	309	325	252
1979	211	185	146	114	108	98	101	211	269	309	325	252
1980	211	185	146	114	104	98	101	211	269	309	325	252
1981	211	185	146	114	108	98	101	211	269	309	325	252
1982	211	185	146	114	108	98	101	211	269	309	325	252
1983	211	185	146	114	108	98	101	211	269	309	325	252
1984	211	185	146	114	104	98	101	211	269	309	325	252
1985	211	185	146	114	108	98	101	211	269	309	325	252
1986	211	185	146	114	108	98	101	211	269	309	325	252
1987	211	185	146	114	108	98	101	211	269	309	325	252
1988	211	185	146	114	104	98	101	211	269	309	325	252
1989	211	185	146	114	108	98	101	211	269	309	325	252
1990	211	185	146	114	108	195	168	228	235	309	260	269
1991	228	185	179	130	162	195	168	228	235	309	260	269

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Table 2-1 (cont.)
Delta Hydrology for Alternative DEFT2 (DWRSIM Study 689)
Water Years 1976 - 1991

(values in cfs)

Banks Pumping

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	10,018	5,697	3,822	3,789	2,712	2,472	756	748	1,798	1,789	10,294	5,462
1977	3,334	2,857	2,163	2,309	1,332	1,171	756	748	1,563	374	455	1,731
1978	293	1,513	3,269	10,148	9,867	2,602	756	748	2,823	7,270	2,927	10,000
1979	6,912	4,252	3,171	5,969	4,916	4,830	756	748	2,487	4,586	10,018	8,907
1980	5,497	5,412	6,294	2,830	2,364	2,049	756	748	2,840	7,741	2,976	10,016
1981	6,668	3,899	3,415	4,196	4,970	4,928	1,126	1,122	1,597	1,594	10,294	9,226
1982	2,960	10,302	10,294	4,667	5,510	5,464	756	748	4,319	10,294	7,823	10,302
1983	10,018	6,974	5,155	1,350	1,350	1,334	756	748	10,084	3,627	6,847	4,101
1984	2,781	2,386	1,887	2,895	3,720	4,017	756	748	2,269	4,001	10,294	10,016
1985	6,473	10,016	5,481	4,619	3,853	2,976	756	748	1,714	1,821	10,294	9,680
1986	3,968	3,479	4,424	7,546	9,453	2,944	756	748	2,706	10,294	6,212	9,344
1987	6,359	3,546	3,366	4,049	3,457	4,879	756	748	1,714	1,708	10,181	7,546
1988	2,895	1,865	4,098	9,026	1,982	1,903	756	748	1,042	748	3,692	1,429
1989	1,578	3,160	2,423	3,366	1,404	6,652	756	748	1,647	1,773	10,294	8,117
1990	4,131	2,807	2,635	6,505	3,331	1,952	756	748	1,781	1,773	4,554	3,160
1991	2,082	2,319	1,870	1,578	972	4,310	756	748	1,580	1,643	1,626	1,697

Tracy Pumping

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	4,602	4,605	3,822	3,789	2,712	2,472	756	748	1,798	1,789	1,334	4,605
1977	2,635	2,857	2,163	2,309	612	878	756	748	1,210	1,578	1,220	2,639
1978	16	958	3,269	4,602	4,610	1,643	756	748	2,823	2,326	4,602	4,605
1979	4,602	4,252	3,171	4,602	1,801	2,765	756	748	2,487	4,586	4,602	4,605
1980	4,602	4,605	4,602	1,529	765	1,578	756	748	2,840	2,830	4,602	4,605
1981	4,602	3,899	4,602	3,773	1,801	2,521	1,126	1,122	1,597	1,594	4,602	4,605
1982	4,602	4,605	4,586	1,203	1,567	3,057	756	748	4,319	4,602	4,602	4,605
1983	4,602	4,605	2,212	960	1,404	1,561	756	748	4,605	4,602	4,602	3,244
1984	1,155	1,311	2,130	960	1,460	2,651	756	748	2,269	4,001	4,602	4,605
1985	4,602	4,605	4,602	1,025	1,765	2,326	756	748	1,714	1,821	4,602	4,605
1986	2,667	3,479	4,424	4,602	4,141	1,545	756	748	2,706	2,618	4,602	4,605
1987	4,602	3,681	3,366	4,049	2,737	2,163	756	748	1,714	1,708	4,602	4,605
1988	2,293	2,000	4,098	4,602	1,843	2,033	756	748	2,504	2,781	4,602	2,958
1989	651	2,386	2,423	3,366	1,404	4,602	756	748	1,647	1,773	4,602	4,605
1990	4,602	3,933	2,635	3,480	1,242	1,919	756	748	1,781	1,773	797	3,781
1991	2,261	2,101	1,870	2,537	306	4,310	756	748	1,580	1,643	1,821	3,059

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Table 2-1 (cont.)
Delta Hydrology for Alternative DEFT2 (DWRSIM Study 689)
Water Years 1976 - 1991

(values in cfs)

Delta Channel Depletions

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	716	857	943	49	417	1,431	1,681	3,383	4,286	4,326	1,952	1,412
1977	1,203	807	862	-114	522	1,057	2,185	1,691	4,252	4,391	2,700	1,361
1978	1,252	689	195	-4,976	-1,909	-1,610	454	2,391	4,252	4,326	2,862	1,597
1979	1,366	622	894	-2,114	-2,557	163	1,244	2,423	4,420	4,212	2,651	1,849
1980	829	723	33	-2,651	-3,494	293	1,244	2,049	3,815	3,871	2,651	1,647
1981	1,317	891	764	-683	180	-276	1,613	2,553	4,588	4,440	2,862	1,580
1982	813	151	-472	-4,407	-612	-2,927	67	2,391	3,613	4,147	2,700	975
1983	764	-1,025	-813	-4,749	-3,565	-4,651	0	2,017	4,151	4,147	2,781	1,462
1984	1,171	50	-2,000	-146	-174	716	1,546	2,797	4,168	4,391	2,797	1,916
1985	797	-370	49	-504	18	-390	1,748	2,862	4,420	4,261	2,651	1,395
1986	1,090	420	98	-1,447	-5,906	-1,285	1,227	2,342	4,185	4,261	2,927	1,277
1987	1,285	891	829	-163	-342	-114	2,034	2,944	4,185	4,033	2,813	1,815
1988	1,138	672	325	-1,415	313	1,008	1,513	2,293	3,899	4,798	2,927	1,849
1989	1,317	672	651	-114	90	0	1,966	2,781	4,067	4,619	2,797	891
1990	960	756	911	-423	-234	1,008	1,933	1,269	4,319	4,570	2,862	1,798
1991	1,203	874	813	33	414	-455	1,563	2,114	3,344	4,489	2,732	1,933

Net Delta Outflow

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	9,823	7,294	8,164	9,026	15,716	13,124	8,420	8,262	6,151	4,001	2,992	3,008
1977	5,448	3,596	4,212	5,578	7,743	6,050	7,092	6,944	6,890	4,001	2,992	3,008
1978	5,464	3,496	7,595	59,327	54,126	73,249	53,914	27,615	12,352	8,001	4,358	3,025
1979	4,505	6,050	6,635	22,134	50,345	36,592	23,629	16,767	10,151	6,505	4,001	3,008
1980	4,293	7,193	13,075	104,555	138,141	63,946	25,310	20,719	12,857	8,001	4,342	3,008
1981	4,424	5,227	8,815	18,946	26,055	28,639	19,915	13,254	4,638	4,993	3,497	3,008
1982	4,001	22,335	81,136	83,332	107,172	90,894	149,103	53,489	21,898	8,001	4,667	10,000
1983	17,011	41,998	88,829	117,842	192,412	257,622	108,315	80,827	77,946	28,168	9,920	27,545
1984	27,891	85,156	160,093	77,266	43,984	36,153	21,192	18,068	9,109	8,001	5,285	3,008
1985	4,846	22,772	16,052	13,840	16,656	16,117	14,621	10,994	5,546	4,993	3,497	3,008
1986	4,001	5,008	10,522	16,149	214,505	156,808	31,562	19,776	11,663	8,001	5,090	3,008
1987	4,293	4,739	7,205	9,872	18,780	22,313	10,218	8,961	5,748	4,993	3,497	3,008
1988	4,001	4,504	9,514	17,906	11,005	11,400	7,832	7,644	6,403	4,001	2,992	3,008
1989	5,448	3,647	5,107	8,180	8,229	33,616	24,503	9,514	5,512	4,993	3,497	3,008
1990	4,001	4,504	5,351	12,474	13,793	10,360	10,201	8,375	6,050	4,001	2,992	3,008
1991	5,448	3,496	3,545	4,830	11,416	26,053	15,966	8,245	5,882	4,001	2,992	3,008

Department of Water Resources, Delta Modeling Section

Table 2-2
Operation of Delta Facilities
under
Alternative DEFT2

Delta Cross Channel

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	X	X	X	X	X	X	X	X	X	O	O	O
1977	X	X	X	X	X	X	X	X	X	O	O	O
1978	X	X	X	X	X	X	X	X	X	O	O	O
1979	X	X	X	X	X	X	X	X	X	O	O	O
1980	X	X	X	X	X	X	X	X	X	O	O	O
1981	X	X	X	X	X	X	X	X	X	O	O	O
1982	X	X	X	X	X	X	X	X	X	O	O	O
1983	X	X	X	X	X	X	X	X	X	O	O	O
1984	X	X	X	X	X	X	X	X	X	O	O	O
1985	X	X	X	X	X	X	X	X	X	O	O	O
1986	X	X	X	X	X	X	X	X	X	O	O	O
1987	X	X	X	X	X	X	X	X	X	O	O	O
1988	X	X	X	X	X	X	X	X	X	O	O	O
1989	X	X	X	X	X	X	X	X	X	O	O	O
1990	X	X	X	X	X	X	X	X	X	O	O	O
1991	X	X	X	X	X	X	X	X	X	O	O	O

Note: 'X' denotes gates closed, 'O' denotes gates open

Suisun Marsh Salinity Control Gates

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	O	O	O	O	O	O	O	O	N	N	N	N
1977	O	O	O	O	O	O	O	O	N	N	N	N
1978	N	N	N	N	N	N	N	N	N	N	N	N
1979	O	O	O	O	O	O	O	O	N	N	N	N
1980	N	N	N	N	N	N	N	N	N	N	N	N
1981	O	O	O	O	O	O	O	O	N	N	N	N
1982	N	N	N	N	N	N	N	N	N	N	N	N
1983	N	N	N	N	N	N	N	N	N	N	N	N
1984	N	N	N	N	N	N	N	N	N	N	N	N
1985	O	O	O	O	O	O	O	O	N	N	N	N
1986	N	N	N	N	N	N	N	N	N	N	N	N
1987	O	O	O	O	O	O	O	O	N	N	N	N
1988	O	O	O	O	O	O	O	O	N	N	N	N
1989	O	O	O	O	O	O	O	O	N	N	N	N
1990	O	O	O	O	O	O	O	O	N	N	N	N
1991	O	O	O	O	O	O	O	O	N	N	N	N

Note: 'N' denotes gates not operating, 'O' denotes gates are operating

Table 2-2 (cont.)
Operation of Delta Facilities
under
Alternative DEFT2

South Delta Flow Control Structures

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr (1-15)	Apr (16-30)	May	Jun	Jul	Aug	Sep
1976	2	0	0	0	0	0	2	2	2	3B	3A	3A	3B
1977	2	0	0	0	0	0	2	2	2	3A	3B	3A	3A
1978	2	0	0	0	0	0	2	2	2	3C	3C	3B	3C
1979	2	0	0	0	0	0	2	2	2	3C	3B	3B	3B
1980	2	0	0	0	0	0	2	2	2	3C	3C	3B	3B
1981	2	0	0	0	0	0	2	2	2	3B	3B	3A	3B
1982	2	0	0	0	0	0	0	0	2	3C	3C	3C	3C
1983	2	0	0	0	0	0	0	0	0	0	3C	3C	3C
1984	2	0	0	0	0	0	2	2	2	3B	3B	3B	3B
1985	2	0	0	0	0	0	2	2	2	3B	3B	3A	3B
1986	2	0	0	0	0	0	2	2	2	3C	3B	3B	3B
1987	2	0	0	0	0	0	2	2	2	3B	3A	3A	3B
1988	2	0	0	0	0	0	2	2	2	3A	3A	3A	3A
1989	2	0	0	0	0	0	2	2	2	3A	3B	3A	3B
1990	2	0	0	0	0	0	2	2	2	3A	3A	3A	3B
1991	2	0	0	0	0	0	2	2	2	3A	3A	3A	3A

Note: '0' denotes no structures operating, '2' denotes Old River and middle River Operating, '3' denotes all three structures operating. 'A' -GLC with special operation, 'B' - GLC and Old River with special operation, C' - GLC, Old River and Middle River structures with special operation.

Head of Old River Fish Control Structure

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr (1-15)	Apr (16-30)	May	Jun	Jul	Aug	Sep
1976	O	O	N	N	N	N	N	O	O	N	N	N	N
1977	O	O	N	N	N	N	N	O	O	N	N	N	N
1978	O	O	N	N	N	N	N	N	N	N	N	N	N
1979	O	O	N	N	N	N	N	O	O	N	N	N	N
1980	O	O	N	N	N	N	N	O	N	N	N	N	N
1981	O	O	N	N	N	N	N	O	O	N	N	N	N
1982	O	O	N	N	N	N	N	N	N	N	N	N	N
1983	N	N	N	N	N	N	N	N	N	N	N	N	N
1984	O	N	N	N	N	N	N	O	O	I	N	N	N
1985	O	O	N	N	N	N	N	O	O	N	N	N	N
1986	O	O	N	N	N	N	N	N	N	N	N	N	N
1987	O	O	N	N	N	N	N	O	O	N	N	N	N
1988	O	O	N	N	N	N	N	O	O	N	N	N	N
1989	O	O	N	N	N	N	N	O	O	N	N	N	N
1990	O	O	N	N	N	N	N	O	O	N	N	N	N
1991	O	O	N	N	N	N	N	O	O	N	N	N	N

Note: 'N' denotes gates not operating, 'O' denotes gates are operating to make complete closure

Table 2-2 (cont.)
Operation of Delta Facilities
under
Alternative DEFT2

Clifton Court Forebay Intake Gate Priority

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	4	4	4	4	4	3	3	3	4	4	4	
1977	4	4	4	4	4	3	3	3	4	4	4	
1978	4	4	4	4	4	3	3	3	4	4	4	
1979	4	4	4	4	4	3	3	3	4	4	4	
1980	4	4	4	4	4	3	3	3	4	4	4	
1981	4	4	4	4	4	3	3	3	4	4	4	
1982	4	4	4	4	4	3	3	3	4	4	4	
1983	4	4	4	4	4	3	3	3	4	4	4	
1984	4	4	4	4	4	3	3	3	4	4	4	
1985	4	4	4	4	4	3	3	3	4	4	4	
1986	4	4	4	4	4	3	3	3	4	4	4	
1987	4	4	4	4	4	3	3	3	4	4	4	
1988	4	4	4	4	4	3	3	3	4	4	4	
1989	4	4	4	4	4	3	3	3	4	4	4	
1990	4	4	4	4	4	3	3	3	4	4	4	
1991	4	4	4	4	4	3	3	3	4	4	4	

Note: See Figure 8 in January 16,1998 Report for description of the values

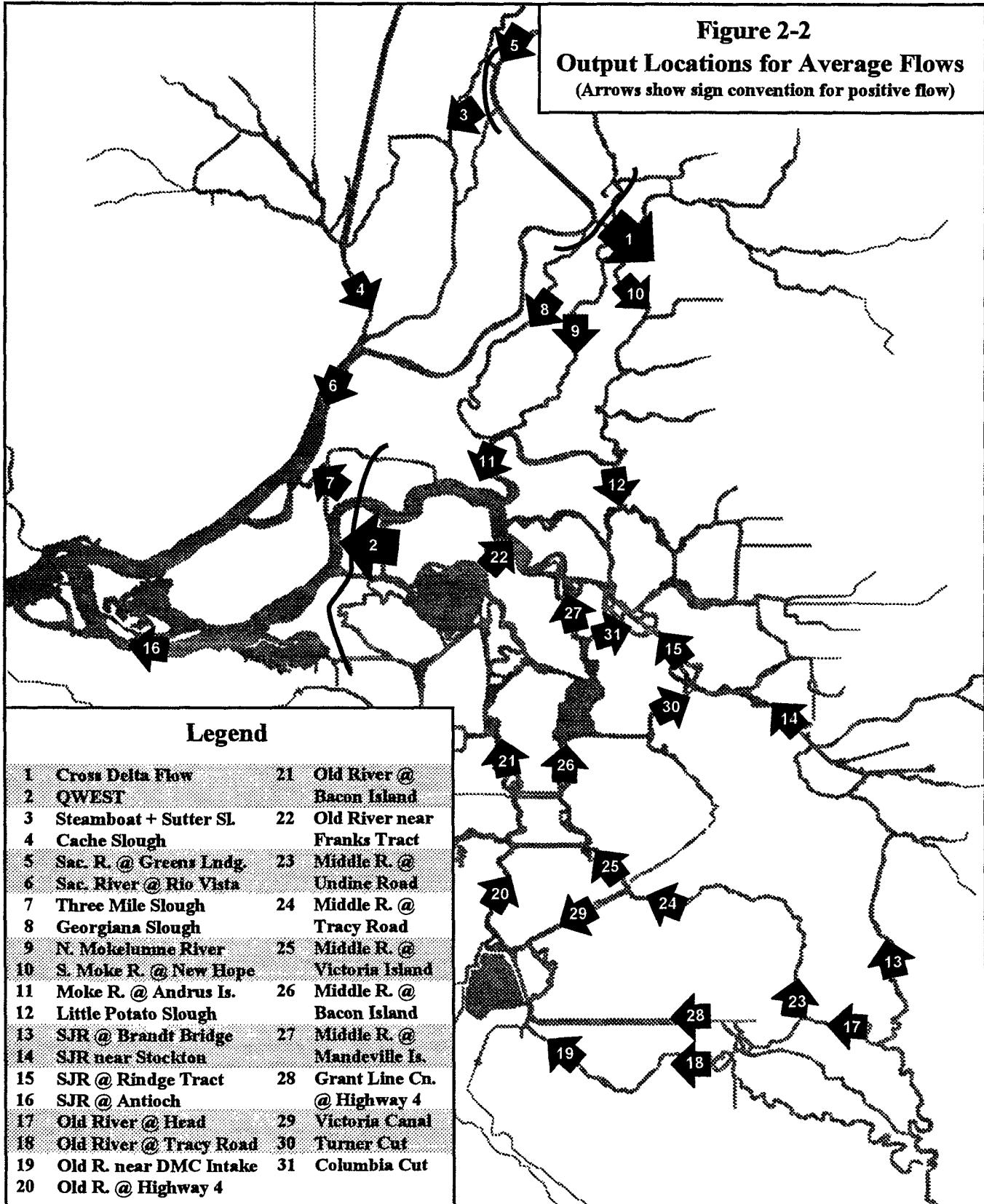


Table 3
Monthly Average Flow
(Values in cubic feet per second)

ALTERNATIVE DEFT2

Cross Delta

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	4775	4394	4170	4202	4590	4384	3023	3023	3334	3856	5839	8071	7353
1977	3480	3187	3086	3297	3258	3078	3095	3096	2977	3812	5151	3839	4641
1978	2619	2617	3903	6927	7056	6528	5579	5579	4227	3974	9135	7051	8749
1979	4060	4033	3873	4954	6124	5391	4188	4194	3565	4328	8784	9579	8546
1980	4116	4388	4755	7319	8732	5634	4365	4370	3912	3829	8608	6563	8351
1981	3913	3876	4287	4845	5278	5384	4226	4229	3653	3579	6080	9833	8944
1982	3744	5581	8754	7005	8414	8485	8847	8847	5543	4643	10051	8271	9375
1983	4878	5920	7333	7567	9724	9844	8371	8371	7030	7138	4581	9204	5017
1984	4821	7928	9764	6547	5665	5639	3996	4004	3890	4086	8803	10003	8838
1985	4148	5639	4938	4350	4500	4407	3694	3696	3428	3742	6275	9781	9069
1986	3615	3652	4415	4987	11316	8784	4480	4480	3692	3430	10416	8445	8358
1987	4046	3711	3955	4309	4738	5045	3384	3384	3374	3761	6059	9815	8389
1988	3371	3045	4318	5251	4054	4145	3152	3153	3292	3840	6151	7313	4730
1989	3047	3318	3351	4057	3405	6280	4916	4916	3676	3679	6483	10010	8379
1990	4005	3704	3620	4731	4245	3998	3611	3612	3335	3869	6230	5937	6088
1991	3490	3136	2962	3171	3740	5344	4186	4185	3379	3622	6048	5048	5206
Avg	3883	4258	4843	5220	5927	5773	4570	4571	3894	4074	7168	8048	7502

QWEST

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	-6202	-4412	-1603	-2172	-138	-19	2074	2078	1256	-1804	2027	-3223	-2353
1977	-198	-956	537	-334	1465	459	2878	2881	766	-745	2033	1739	310
1978	2955	989	1060	-938	2789	14857	19659	19671	12387	2917	359	72	-4168
1979	-3753	-3033	-176	200	10598	7829	9099	9116	7305	-1156	-399	-4420	-3492
1980	-4578	-4041	-2556	22539	31133	17226	9448	9442	8859	3609	652	170	-3757
1981	-3031	-2479	-1479	-687	1536	1156	6130	6146	3940	-1385	2103	-4942	-4226
1982	-2445	-7028	-624	12537	25053	20802	43888	43898	21455	4878	-1723	-1496	-78
1983	-346	5722	28583	39578	57620	63070	30955	30954	29508	29735	11337	932	5769
1984	8748	24194	36086	21137	12378	5403	8262	8277	7074	-710	764	-4309	-4061
1985	-5119	-6661	-2646	502	1740	863	5353	5364	3966	-1228	1949	-4912	-4684
1986	-1768	-1861	-1724	-1241	29471	34804	12512	12513	9676	4906	-2136	-1175	-3976
1987	-4054	-2089	-900	-1963	476	-635	3303	3311	1953	-1543	2060	-4858	-3249
1988	-979	320	-1816	-7127	490	658	2140	2142	1395	-1989	1212	-1575	647
1989	1519	-1561	-176	-1567	2114	-3381	4042	4050	1624	-1709	1868	-4753	-3904
1990	-4050	-2362	-294	-3767	363	510	3327	3334	605	-1979	1056	-53	-758
1991	-448	-795	200	-282	3807	-940	3991	3995	2202	-737	1923	1069	539
Avg	-1484	-378	3279	4775	11306	10166	10441	10448	7123	1941	1568	-1983	-1965

Department of Water Resources, Delta Modeling Section

Table 3
Monthly Average Flow
(Values in cubic feet per second)

ALTERNATIVE DEFT2

Steamboat+Sutter Slough

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	8831	6470	5629	5712	8316	7021	2531	2532	3224	4522	2539	3922	3274
1977	3329	2485	2373	2806	2931	2393	2738	2738	2232	4479	2125	1339	1653
1978	1570	1310	4367	23809	25001	22488	17875	17875	8167	5613	5587	3285	4564
1979	4890	4842	4425	11053	20241	15509	7511	7508	4657	6741	5169	5784	4489
1980	4982	6315	8795	27379	36199	17332	8460	8457	6099	5200	5201	3023	4383
1981	4388	4290	6158	10072	13822	14654	7168	7168	4427	3673	2737	5983	4803
1982	3818	14883	34849	25260	34371	34896	37949	37949	17966	9682	7065	4587	6228
1983	10328	18525	28381	30220	42992	42213	34616	34616	27042	27535	10331	6222	12712
1984	11376	31630	42746	23185	17656	16758	6382	6379	5734	5619	5424	6468	4873
1985	5012	15566	10546	6821	7976	7312	4777	4777	3765	4189	2855	5916	4918
1986	3482	3529	6702	10877	51081	36444	9696	9696	5360	4095	7508	4686	4266
1987	4808	3785	4759	6278	9441	11768	3563	3564	3405	4223	2705	5961	4228
1988	2944	2273	6206	12474	5399	5825	2804	2804	3095	4468	2720	3388	1735
1989	2434	2721	2921	5084	3305	20041	11505	11504	4230	3949	3023	6269	4128
1990	4610	3723	3600	8643	6239	5177	4178	4178	3149	4532	2755	2414	2462
1991	3333	2370	2041	2506	4404	14084	6588	6589	3383	3865	2678	1954	2000
Avg	5008	7795	10906	13261	18086	17120	10521	10521	6621	6399	4401	4450	4420

Cache Slough

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	2460	1694	1580	1494	2046	1858	179	181	138	594	440	1265	917
1977	861	589	668	787	684	453	679	679	665	774	365	249	361
1978	406	495	3114	21524	14454	23151	5811	5812	1842	1115	1418	764	1189
1979	1304	1302	1531	4318	6397	4494	1807	1806	763	1333	1186	1389	1205
1980	1319	1976	4030	40112	53822	19805	2137	2139	1555	1198	1319	820	1113
1981	1149	1155	2011	3201	4521	4107	1638	1638	610	537	470	1548	1284
1982	1099	7662	33938	28015	32596	15184	46778	46780	5051	2225	1719	1130	1659
1983	3180	6914	19450	30289	71734	125105	24886	24886	10323	8106	2508	1532	3507
1984	3282	14808	58539	21562	5761	5035	1378	1377	1103	983	1137	1521	1278
1985	2824	5413	3097	2044	2502	1877	990	990	558	609	401	1466	1279
1986	935	1217	2872	4470	103873	65273	3453	3453	1081	607	1762	1105	1037
1987	1225	971	1393	1891	2821	3478	630	631	306	545	367	1468	1104
1988	762	730	2567	4753	1377	1531	514	514	402	547	282	698	365
1989	649	752	978	1489	1107	6017	3022	3022	675	403	398	1699	1076
1990	1208	976	1190	2897	2358	1249	1113	1112	247	581	306	396	539
1991	889	566	574	689	1650	4558	1693	1693	751	666	484	409	477
Avg	1472	2951	8596	10596	19231	17698	6044	6045	1629	1302	910	1091	1149

Department of Water Resources, Delta Modeling Section

Table 3
Monthly Average Flow
(Values in cubic feet per second)

ALTERNATIVE DEFT2

Sac R. @ Greens Landing

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	18771	14294	12577	12757	17775	15299	5905	5905	7468	10303	8417	12805	11052
1977	7715	5905	5631	6606	6807	5661	6307	6307	5304	10180	7056	4418	5695
1978	3738	3257	10246	46583	48772	43890	35026	35026	17253	12440	16547	10831	14464
1979	11094	10985	10150	22668	39659	30616	16036	16036	10314	14809	15568	17184	14173
1980	11309	14049	18814	53148	69114	34082	17842	17840	13254	11551	15494	9941	13843
1981	10037	9827	13694	20917	27513	29061	15451	15451	9964	8516	9013	17697	15022
1982	8841	29662	67009	49112	65928	66841	72193	72193	35183	20176	19657	14144	17774
1983	21399	36467	54885	58210	81440	79967	66217	66217	52256	53223	21181	17649	25385
1984	23033	60902	80949	45138	34691	33048	13831	13831	12580	12551	16027	18637	15069
1985	11401	30905	21766	14913	17108	15839	10606	10606	8533	9604	9397	17542	15316
1986	8112	8255	14827	22521	95966	69540	20043	20043	11706	9175	20625	14451	13642
1987	10928	8751	10783	13882	19776	23839	8106	8106	7824	9666	8928	17648	13592
1988	6908	5401	13844	25162	12053	12907	6491	6491	7166	10194	9055	11244	5928
1989	5695	6447	6867	11458	7658	39422	23316	23316	9590	9093	9893	18287	13402
1990	10525	8631	8387	18464	13756	11586	9410	9410	7306	10334	9180	8254	8477
1991	7734	5647	4910	5949	10044	28013	14363	14363	7753	8872	8861	6617	6834
Avg	11077	16212	22209	26718	35504	33726	21321	21321	13966	13793	12806	13584	13104

Sac R. @ Rio Vista

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	15824	11623	10344	10341	14694	12641	3998	3997	4912	7365	4142	6736	5538
1977	6036	4479	4523	5234	5301	4205	4995	4995	4068	7521	3452	2336	2828
1978	2987	2684	10799	56608	51289	56109	31981	31982	14291	9634	8986	5463	7453
1979	8831	8742	8689	21166	36148	27193	13353	13347	7868	11528	8258	9160	7437
1980	8983	11833	17927	80605	105964	45263	15063	15060	10939	9102	8495	5198	7224
1981	7903	7759	11715	18352	24784	25464	12616	12615	7284	6036	4395	9539	7869
1982	7031	29565	84782	64986	82730	65631	101232	101237	31297	16655	11063	7561	10150
1983	18735	34177	61352	74815	133945	185608	74784	74784	49578	47963	17924	10040	22101
1984	20149	60935	119712	55561	31636	29522	11155	11146	9841	9456	8558	10084	7994
1985	10582	28172	18964	12666	14888	13119	8345	8344	6300	6908	4488	9378	7988
1986	6342	6744	13554	21561	176491	117702	18103	18103	9330	6835	11573	7620	6951
1987	8610	6808	8843	11658	17135	20759	6092	6092	5420	6883	4259	9425	6970
1988	5357	4363	12496	23031	9694	10527	4866	4866	5115	7225	4148	5485	2955
1989	4506	4994	5666	9413	6433	35301	19909	19908	7092	6297	4714	10069	6805
1990	8313	6721	6985	16235	12019	9234	7592	7592	4992	7356	4216	3849	4085
1991	6059	4288	3914	4666	8785	25075	11849	11850	6020	6535	4354	3299	3434
Avg	9141	14618	25017	30431	45746	42710	21621	21620	11522	10831	7064	7203	7361

Department of Water Resources, Delta Modeling Section

Table 3
Monthly Average Flow
(Values in cubic feet per second)

ALTERNATIVE DEFT2

Three Mile Slough

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	-3155	-2689	-2183	-2276	-2175	-2061	-1330	-1321	-1506	-2131	-1270	-2225	-2026
1977	-1737	-1796	-1566	-1739	-1471	-1587	-1226	-1222	-1527	-1960	-1264	-1249	-1483
1978	-1139	-1433	-1738	-3748	-2943	-1223	345	347	-203	-1475	-1778	-1640	-2414
1979	-2432	-2326	-1860	-2334	-1183	-1338	-654	-641	-665	-2223	-1859	-2545	-2300
1980	-2596	-2652	-2671	-872	-542	-494	-695	-687	-579	-1329	-1699	-1607	-2331
1981	-2269	-2189	-2223	-2395	-2257	-2341	-1093	-1080	-1180	-2001	-1286	-2643	-2440
1982	-2163	-3779	-4816	-1906	-538	-586	1750	1752	649	-1475	-2205	-1988	-1886
1983	-2364	-1901	830	2097	2433	-732	684	683	1314	1409	-500	-1723	-1509
1984	-971	118	-375	-194	-784	-1818	-702	-689	-825	-2053	-1693	-2576	-2421
1985	-2718	-3649	-2720	-1960	-1864	-1940	-1002	-992	-1125	-2016	-1313	-2630	-2521
1986	-2022	-2059	-2356	-2582	-5649	-496	-332	-332	-369	-1016	-2306	-1944	-2354
1987	-2472	-2082	-1993	-2301	-2167	-2478	-1223	-1214	-1412	-2065	-1283	-2626	-2241
1988	-1832	-1592	-2303	-3572	-1837	-1851	-1346	-1341	-1481	-2158	-1423	-1901	-1440
1989	-1406	-1915	-1728	-2130	-1409	-3371	-1727	-1720	-1539	-2058	-1338	-2634	-2335
1990	-2460	-2126	-1805	-2792	-1950	-1811	-1280	-1274	-1605	-2153	-1438	-1578	-1705
1991	-1788	-1767	-1594	-1712	-1256	-2657	-1392	-1386	-1382	-1903	-1299	-1384	-1472
Avg	-2095	-2115	-1944	-1901	-1600	-1674	-701	-695	-840	-1663	-1497	-2056	-2055

Georgiana Slough

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	2768	2386	2167	2195	2582	2377	1000	1000	1302	1828	1222	1679	1523
1977	1473	1179	1084	1291	1253	1069	1087	1088	959	1787	1075	774	965
1978	612	610	1926	4934	5066	4527	3572	3572	2213	1950	1876	1474	1803
1979	2053	2025	1877	2965	4125	3387	2179	2186	1548	2304	1832	1992	1786
1980	2109	2382	2768	5333	6729	3629	2356	2361	1901	1806	1832	1420	1778
1981	1906	1868	2285	2841	3277	3378	2214	2216	1631	1553	1274	2024	1842
1982	1737	3583	6772	5005	6428	6481	6836	6836	3530	2620	2120	1777	1992
1983	2872	3919	5347	5583	7744	7845	6365	6365	5017	5114	2568	1981	3010
1984	2815	5925	7762	4546	3660	3632	1979	1987	1871	2059	1859	2080	1863
1985	2141	3635	2940	2350	2503	2400	1682	1684	1412	1717	1310	2014	1869
1986	1609	1644	2421	3009	9322	6778	2472	2472	1679	1406	2174	1772	1752
1987	2038	1703	1953	2306	2736	3038	1370	1370	1352	1734	1265	2019	1727
1988	1364	1037	2322	3246	2047	2139	1140	1141	1275	1811	1289	1537	986
1989	1040	1310	1349	2054	1403	4274	2904	2905	1659	1651	1358	2062	1721
1990	1999	1696	1620	2731	2241	1991	1603	1603	1318	1840	1306	1240	1280
1991	1482	1128	959	1162	1737	3338	2178	2177	1372	1603	1265	1056	1091
Avg	1876	2252	2847	3222	3928	3768	2558	2560	1877	2049	1601	1681	1687

Department of Water Resources, Delta Modeling Section

Table 3
Monthly Average Flow
(Values in cubic feet per second)

ALTERNATIVE DEFT2

North Mokelumne R.

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	1522	1541	1528	1482	1444	1476	1342	1352	1239	1208	3493	4848	4413
1977	1481	1463	1509	1474	1402	1336	1497	1504	1285	1229	3027	2286	2755
1978	1468	1488	1746	3058	2559	2717	2702	2702	1808	1426	5513	4253	5303
1979	1438	1471	1533	2070	2853	2689	2086	2103	2065	1572	5549	6079	5456
1980	1440	1520	1765	6015	5490	2670	2013	2029	2306	2009	5654	4416	5553
1981	1501	1496	1556	1670	1629	2106	1575	1591	1335	1218	3600	5993	5461
1982	1456	1763	2415	5610	6807	5538	9927	9927	3937	2246	6732	5649	6452
1983	1706	2875	6519	7070	9786	12489	4547	4547	6030	4104	2375	6571	2363
1984	1771	5214	7933	3698	3314	2436	2002	2020	1997	1661	5570	6348	5659
1985	1525	1851	1659	1599	1941	1743	1709	1721	1398	1213	3731	5969	5516
1986	1447	1531	1675	2433	12873	6342	2401	2401	2291	1974	6719	5536	5431
1987	1478	1550	1588	1536	1616	1804	1409	1419	1275	1214	3594	5965	5099
1988	1439	1611	1582	1523	1436	1368	1330	1337	1277	1181	3610	4357	2821
1989	1426	1442	1479	1399	1557	1980	1443	1450	1423	1296	3852	6128	5045
1990	1361	1419	1479	1527	1542	1550	1492	1498	1289	1193	3658	3507	3625
1991	1379	1374	1443	1409	1563	1898	1369	1378	1357	1282	3609	3007	3120
Avg	1490	1851	2338	2723	3613	3134	2428	2436	2019	1627	4393	5057	4629

S Moke R. @ New Hope Is.

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	820	813	784	774	786	782	625	614	603	677	1151	1553	1436
1977	691	675	687	696	659	630	679	672	597	666	1015	805	957
1978	622	639	813	1535	1322	1297	1211	1211	821	733	1716	1373	1673
1979	720	750	751	1025	1341	1262	960	943	910	867	1756	1911	1743
1980	750	801	901	2426	2303	1211	939	921	1014	975	1807	1473	1798
1981	732	747	800	887	873	1094	771	755	628	656	1181	1855	1715
1982	714	981	1402	2351	2688	2349	3578	3578	1669	1112	2109	1825	2028
1983	861	1361	2522	2668	3499	4410	1976	1976	2412	1735	1098	2082	1166
1984	821	2173	3044	1620	1487	1212	925	908	908	888	1757	1984	1807
1985	783	1026	893	810	954	888	802	789	643	662	1215	1848	1728
1986	701	743	845	1123	4560	2551	1078	1078	983	923	2089	1770	1752
1987	747	758	789	794	846	965	665	655	610	668	1177	1846	1618
1988	679	719	802	884	735	709	617	610	608	659	1184	1416	971
1989	639	681	695	717	713	1130	786	779	704	700	1247	1888	1598
1990	705	706	713	823	787	783	708	702	629	666	1208	1185	1217
1991	663	635	651	657	723	1022	694	686	639	669	1181	1024	1054
Avg	728	888	1068	1237	1517	1393	1063	1055	899	829	1431	1615	1516

Department of Water Resources, Delta Modeling Section

Table 3
Monthly Average Flow
(Values in cubic feet per second)

ALTERNATIVE DEFT2

Moke R. @ Andrus Is.

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr		May	Jun	Jul	Aug	Sep
							1-15	16-30					
1976	3076	2824	2729	2673	2954	2845	1769	1820	1850	2059	3503	4828	4358
1977	2272	2005	2016	2088	2043	1806	2054	2089	1676	2101	2985	2231	2692
1978	1717	1666	2963	5999	5846	5899	5360	5360	3417	2536	5586	4261	5269
1979	2577	2546	2594	3901	5596	4840	3527	3625	3029	2728	5556	6042	5413
1980	2546	2828	3435	9412	10171	5311	3607	3703	3567	2941	5705	4358	5486
1981	2556	2472	2849	3337	3699	4100	3020	3099	2333	1886	3592	5987	5433
1982	2356	3831	6834	8437	10927	9712	14213	14212	6344	3767	6754	5630	6535
1983	3496	5342	10107	11061	15418	17769	9153	9152	9295	7923	4141	6621	4235
1984	3819	9234	13042	6918	5672	4689	3265	3361	3180	2639	5621	6322	5628
1985	2636	3917	3375	2987	3435	3114	2721	2786	2242	2013	3723	5964	5481
1986	2273	2361	3090	4310	18302	11013	4112	4113	3436	2677	6746	5525	5346
1987	2569	2409	2651	2825	3271	3554	2170	2219	1985	2016	3588	5959	5066
1988	2107	2063	2932	3310	2596	2618	1909	1942	1928	2020	3578	4333	2770
1989	1941	2044	2157	2535	2343	4474	3297	3331	2324	2014	3850	6143	5000
1990	2399	2273	2355	3093	2834	2653	2431	2460	1931	2049	3625	3461	3572
1991	2145	1379	1858	1935	2637	3838	2751	2790	2134	2050	3609	2970	3080
Avg	2530	3106	4062	4676	6109	5515	4085	4129	3167	2714	4510	5040	4710

Lttle Potato Slough

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr		May	Jun	Jul	Aug	Sep
							1-15	16-30					
1976	1955	1831	1736	1720	1736	1684	924	873	879	1284	2239	3164	2926
1977	1302	1230	1260	1329	1186	1088	1119	1085	895	1249	1946	1541	1900
1978	914	997	1860	3697	3303	2668	2011	2011	1207	1244	3321	2745	3418
1979	1563	1615	1616	2369	2762	2442	1567	1476	1220	1674	3392	3820	3502
1980	1684	1830	2248	4597	4316	2138	1584	1492	1476	1534	3407	2853	3560
1981	1505	1559	1803	2028	2118	2393	1382	1306	935	1168	2267	3782	3518
1982	1511	2574	4058	4576	5249	4639	5983	5983	2588	1888	4023	3543	3867
1983	1984	2864	4631	4549	5987	7004	3633	3633	3948	2676	1702	3917	2222
1984	1558	4283	5700	2954	2733	2497	1439	1351	1318	1599	3358	3939	3631
1985	1773	2586	2158	1772	2012	1824	1313	1250	960	1230	2346	3774	3554
1986	1421	1492	1998	2831	8606	4613	1724	1724	1319	1292	4049	3461	3495
1987	1610	1521	1676	1812	1935	2140	1100	1051	940	1253	2274	3766	3299
1988	1306	1271	1902	2310	1531	1525	1036	1003	1001	1248	2278	2854	1923
1989	1096	1314	1371	1617	1371	2819	1688	1655	1232	1258	2412	3873	3294
1990	1598	1467	1486	2043	1686	1575	1294	1266	1057	1270	2330	2342	2454
1991	1292	1177	1186	1239	1436	2342	1384	1345	1105	1249	2300	2027	2120
Avg	1505	1851	2293	2590	2998	2712	1824	1781	1380	1445	2728	3213	3043

Department of Water Resources, Delta Modeling Section

Table 3
Monthly Average Flow
(Values in cubic feet per second)

ALTERNATIVE DEFT2

SJR @ Brandt Bridge

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	4051	1857	241	163	322	281	922	2971	2912	189	696	552	313
1977	2808	2121	354	237	262	207	644	1934	1788	546	129	515	623
1978	1250	1282	199	481	2558	4381	6560	6560	4734	3320	852	557	734
1979	4203	1927	264	945	3576	3419	2837	6844	6769	367	371	302	485
1980	1835	1689	121	4805	8867	5919	2858	6869	7010	3370	1416	527	882
1981	4799	1872	206	284	472	572	2158	5516	5438	298	327	441	268
1982	1691	1677	-17	1897	6447	6656	12507	12507	7131	4987	1515	831	2271
1983	3590	3613	8670	11627	17957	20391	9485	9485	8931	17530	8119	961	3666
1984	7643	6127	9831	6692	4171	2106	2895	6799	6238	672	421	360	563
1985	1940	1864	136	281	365	356	1551	4272	4246	344	330	464	250
1986	1657	1640	156	60	6491	10776	3970	3970	8172	4222	342	487	558
1987	3407	1807	245	158	319	230	991	3021	2946	234	352	423	278
1988	1359	1320	58	-165	200	204	619	1858	1798	464	461	370	715
1989	1254	1163	218	114	249	-51	595	1888	1513	483	186	259	230
1990	1218	1196	172	-38	201	215	612	1699	1272	439	343	424	319
1991	1160	1178	223	162	250	286	796	2354	1769	579	56	377	551
Avg	2741	2021	1317	1731	3294	3497	3125	4909	4542	2378	1020	491	794

SJR near Stockton

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	4020	1824	234	138	256	226	796	2844	2740	37	632	516	279
1977	2782	2093	363	228	212	125	605	1895	1666	410	41	467	585
1978	1225	1274	316	561	2647	4405	6491	6492	4634	3196	762	510	693
1979	4176	1897	293	1011	3594	3383	2758	6765	6645	239	284	248	457
1980	1812	1673	215	4919	8850	5881	2794	6804	6919	3251	1334	481	845
1981	4770	1844	265	271	502	530	2071	5429	5296	157	238	388	241
1982	1678	1686	109	1928	6604	6664	12428	12428	7041	4866	1430	798	2242
1983	3623	3637	8811	11751	18141	20401	9425	9425	8828	17397	8027	912	3632
1984	7654	6196	9839	6704	4134	2044	2791	6696	6115	532	328	294	532
1985	1931	1850	150	278	363	303	1466	4187	4136	212	245	415	218
1986	1647	1644	208	257	6576	10754	3904	3905	8077	4098	257	443	516
1987	3374	1779	256	181	299	164	904	2934	2807	90	270	372	244
1988	1339	1306	105	-175	147	171	551	1790	1695	306	355	311	677
1989	1231	1147	225	118	281	-104	519	1812	1406	327	92	232	204
1990	1202	1167	184	-17	162	159	572	1660	1150	282	241	364	274
1991	1126	1150	223	151	315	249	741	2299	1696	471	387	336	532
Avg	2724	2010	1362	1769	3318	3460	3051	4835	4428	2242	933	443	761

Department of Water Resources, Delta Modeling Section

Table 3
Monthly Average Flow
(Values in cubic feet per second)

ALTERNATIVE DEFT2

SJR @ Rindge Tract

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	2066	593	-344	-467	-235	-236	519	2053	1867	-540	57	-650	-718
1977	1756	1199	37	-157	5	-118	423	1383	1051	-156	-316	98	-22
1978	930	799	-55	-471	1475	3850	5902	5903	4111	2200	-269	-322	-675
1979	2483	799	-162	246	2902	2581	2385	5447	5260	-427	-708	-1134	-813
1980	594	500	-501	4437	8071	5264	2432	5493	5537	2241	174	-355	-553
1981	2999	816	-311	-325	31	-65	1680	4235	4022	-379	-250	-1064	-1039
1982	691	118	-873	1390	5777	5567	11346	11347	6320	3494	-102	-410	704
1983	2225	2531	7867	10959	16645	18242	8662	8661	8028	14659	6485	-246	2578
1984	6071	5585	8851	6016	3435	1358	2371	5355	4803	-153	-581	-1129	-836
1985	628	260	-577	-153	-55	-137	1195	3248	3146	-341	-279	-1037	-1105
1986	755	739	-405	-436	5081	9731	3474	3474	6522	3042	-1026	-638	-800
1987	1839	806	-255	-422	-188	-426	668	2188	1979	-467	-231	-1063	-907
1988	607	705	-470	-1215	-215	-179	336	1256	1107	-344	-242	-619	66
1989	776	425	-148	-399	109	-1000	289	1251	851	-303	-420	-1188	-984
1990	193	331	-216	-744	-242	-210	389	1196	625	-366	-346	-304	-481
1991	487	512	-74	-189	252	-439	527	1690	1150	-100	-154	-175	-97
Avg	1569	1045	772	1129	2678	2736	2662	4011	3524	1378	111	-640	-355

SJR @ JERSEY POINT

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	-2772	-1519	678	224	2054	2053	3307	3307	2681	370	3217	-847	-212
1977	1568	905	2120	1448	2899	2040	3999	4002	2255	1217	3204	2917	1786
1978	3991	2408	2866	2903	5677	15473	18495	18504	12059	4249	2124	1720	-1559
1979	-1139	-558	1745	2598	11376	8865	9376	9392	7662	1084	1477	-1677	-1018
1980	-1770	-1189	292	22543	30358	17010	9754	9751	9077	4771	2332	1782	-1244
1981	-612	-161	846	1760	3759	3460	6965	6979	4936	639	3292	-2077	-1584
1982	-154	-2919	4287	13945	24613	20541	40309	40316	19910	6137	563	576	1841
1983	2058	7430	26677	35937	52886	61118	28978	28978	26969	27082	11376	2639	7057
1984	9383	23111	34951	20479	12667	7007	8616	8629	7594	1340	2423	-1545	-1446
1985	-2159	-2705	222	2474	3570	2778	6135	6143	4917	808	3174	-2061	-1946
1986	349	303	753	1510	33813	33815	12324	12324	9651	5704	264	834	-1434
1987	-1392	106	1168	453	2649	1878	4392	4395	3269	557	3255	-2012	-850
1988	917	1927	608	-3237	2321	2498	3403	3403	2812	216	2573	397	2069
1989	2885	444	1596	659	3468	143	5601	5604	3090	387	3122	-1894	-1380
1990	-1399	-114	1564	-784	2319	2314	4480	4484	2176	220	2438	1528	989
1991	1375	1028	1821	1471	4940	1773	5227	5229	3510	1183	3145	2416	2001
Avg	695	1781	5137	6524	12461	11423	10710	10715	7661	3498	2999	168	191

Department of Water Resources, Delta Modeling Section

Table 3
Monthly Average Flow
(Values in cubic feet per second)

ALTERNATIVE DEFT2

SJR @ Antioch

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	-3189	-1869	448	-33	1833	1842	3105	3100	2430	26	3075	-1181	-511
1977	1379	681	1978	1254	2753	1827	3915	3914	2027	926	3040	2774	1592
1978	3920	2268	2872	2822	5714	15895	19016	19027	12283	4080	1876	1497	-1937
1979	-1463	-862	1607	2501	11623	8974	9492	9498	7651	764	1206	-2081	-1348
1980	-2117	-1501	97	23399	31436	17485	9902	9887	9160	4625	2102	1565	-1590
1981	-922	-437	650	1576	3669	3298	6958	6965	4784	294	3116	-2490	-1943
1982	-416	-3325	4340	14295	25511	21161	41758	41763	20476	6042	239	297	1629
1983	1912	7525	27762	37402	55126	63536	29958	29958	27828	27918	11532	2438	7070
1984	9556	23913	36240	21152	12938	7003	8674	8678	7582	1023	2188	-1960	-1803
1985	-2513	-3113	-13	2335	3485	2604	6102	6103	4801	479	2997	-2472	-2329
1986	111	63	565	1446	35040	35027	12579	12579	9756	5599	-72	560	-1802
1987	-1735	-157	971	225	2495	1645	4269	4269	3063	230	3095	-2417	-1176
1988	703	1759	406	-3667	2120	2330	3259	3256	2616	-138	2363	109	1890
1989	2766	208	1431	439	3378	-176	5530	5531	2896	44	2948	-2265	-1722
1990	-1726	-388	1401	-1073	2153	2122	4413	4414	1927	-131	2228	1300	747
1991	1169	814	1656	1279	4928	1556	5184	5182	3391	916	3001	2260	1830
Avg	464	1598	5151	6584	12763	11633	10882	10883	7667	3293	2808	-129	-87

Old R. @ Head

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	0	0	1586	1376	1592	1318	2048	0	0	846	480	726	893
1977	0	0	1356	990	846	781	1290	0	0	485	609	137	317
1978	0	0	1249	2782	4686	6267	8420	8420	6359	3682	1933	1128	1895
1979	0	0	1515	3021	5398	5283	4007	0	0	1335	1133	1242	1282
1980	0	0	1773	6734	11366	8114	4011	0	0	3610	2298	1071	1728
1981	0	0	1512	1865	2026	2340	3357	0	0	941	837	898	1057
1982	0	0	1728	3491	8240	8545	14084	14084	8584	5026	2517	1829	2852
1983	5181	5394	10496	13245	18714	20745	11250	11250	10739	18647	7366	1988	3767
1984	0	7826	11586	8434	5757	3750	3904	0	0	1388	1157	1364	1420
1985	0	0	1709	1318	1647	1707	2720	0	0	963	839	897	1071
1986	0	0	1529	1692	8951	13395	5362	5362	0	4341	1298	1207	1429
1987	0	0	1402	1407	1550	1575	2030	0	0	864	844	870	986
1988	0	0	1182	1349	949	910	1239	0	0	540	380	392	437
1989	0	0	1013	1014	941	1466	1293	0	0	516	691	587	944
1990	0	0	969	1106	901	949	1087	0	0	486	201	269	784
1991	0	0	893	813	678	1913	1558	0	0	440	183	5	226
Avg	324	826	2594	3165	4640	4941	4229	2445	1605	2757	1423	913	1318

Department of Water Resources, Delta Modeling Section

Table 3
Monthly Average Flow
(Values in cubic feet per second)

ALTERNATIVE DEFT2

Old R. @ Tracy Rd.

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Apr		May	Jun	Jul	Aug	Sep
								1-15	16-30					
1976	-541	81	341	293	319	251	-489	-639	-613	330	-499	-273	344	
1977	-620	29	182	222	160	122	-636	-706	-641	-505	282	-648	-549	
1978	-754	-8	163	500	770	991	-102	-102	-230	1002	519	425	512	
1979	-510	51	164	592	898	842	-370	-686	-654	344	416	441	446	
1980	-534	80	392	1094	1889	1263	-385	-701	-682	982	623	410	564	
1981	-505	56	345	247	412	476	-384	-653	-618	343	331	-159	383	
1982	-588	109	422	626	1331	1363	2471	2471	-84	1391	689	501	768	
1983	-243	855	1786	2335	3596	3981	1876	1884	1746	3313	2083	546	1033	
1984	-702	1227	1945	1353	914	601	-357	-671	-666	465	421	474	482	
1985	-579	72	383	263	275	176	-436	-669	-658	350	332	-160	389	
1986	-617	44	346	350	1479	2297	-316	-318	-681	1193	444	437	485	
1987	-501	50	289	307	306	310	-475	-661	-628	335	341	-168	369	
1988	-638	56	198	318	161	161	-556	-672	-647	-490	-552	-407	-518	
1989	-699	19	175	208	69	361	-601	-679	-645	-491	299	-249	355	
1990	-551	115	208	270	247	170	-608	-709	-628	-495	-586	-489	319	
1991	-649	49	177	165	88	411	-554	-700	-684	-516	-604	-654	-576	
Avg	-577	180	470	571	807	861	-120	-263	-438	472	283	1	300	

Old R. near DMC

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Apr		May	Jun	Jul	Aug	Sep
								1-15	16-30					
1976	-560	63	319	258	185	159	-663	-813	-840	126	-595	-314	325	
1977	-633	15	176	202	55	1	-684	-754	-806	-684	157	-710	-580	
1978	-766	-18	192	534	828	990	-196	-195	-372	846	399	366	476	
1979	-521	37	169	596	899	807	-487	-803	-829	182	302	370	431	
1980	-546	71	411	1150	1871	1211	-484	-800	-817	834	513	352	534	
1981	-520	43	348	235	400	409	-522	-790	-816	164	213	-227	366	
1982	-593	109	475	624	1393	1361	2355	2355	-212	1240	576	468	751	
1983	-227	868	1905	2408	3742	3981	1794	1802	1596	3145	1962	486	1009	
1984	-700	1274	1941	1351	875	514	-509	-823	-830	288	297	385	464	
1985	-582	64	380	251	256	101	-568	-802	-812	184	218	-222	364	
1986	-623	36	351	475	1531	2255	-412	-414	-818	1036	330	383	446	
1987	-527	35	280	302	259	205	-611	-797	-827	144	224	-234	343	
1988	-650	49	202	303	88	99	-664	-780	-806	-702	-701	-485	-552	
1989	-711	9	164	198	56	284	-725	-803	-809	-699	168	-274	337	
1990	-564	102	203	260	178	82	-655	-756	-819	-705	-729	-570	274	
1991	-675	36	164	151	75	371	-627	-773	-778	-649	-687	-694	-592	
Avg	-587	175	480	581	793	802	-228	-371	-600	297	165	-57	274	

Department of Water Resources, Delta Modeling Section

Table 3
Monthly Average Flow
(Values in cubic feet per second)

ALTERNATIVE DEFT2

Old R. @ Highway 4

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	-10787	-7610	-4446	-4635	-3283	-2907	-45	-1522	-1719	-2533	-2412	-8126	-6707
1977	-4302	-4196	-2135	-2670	-1045	-1251	-137	-1078	-1490	-2130	-1241	-1182	-2951
1978	-159	-1824	-3676	-8694	-7073	1337	4792	4799	3130	-2085	-6063	-4742	-9597
1979	-8434	-6258	-3447	-5491	-1035	-1887	1562	-1313	-1550	-3222	-6165	-10032	-9023
1980	-7367	-7359	-6568	1831	5537	2937	1635	-1245	-1395	-2131	-6502	-4811	-9599
1981	-8258	-5743	-4680	-4455	-3477	-3916	481	-1931	-2194	-2149	-1976	-10498	-9421
1982	-5448	-11024	-9493	-1751	870	-197	8315	8318	4777	-3356	-9613	-7968	-9107
1983	-6904	-4602	2497	7809	11388	12051	6498	6498	5919	1700	-1400	-7186	-2850
1984	-2741	2910	5187	3155	50	-2399	1360	-1441	-1523	-2812	-5314	-10214	-9769
1985	-8074	-10833	-6087	-3170	-2912	-2798	592	-1363	-1479	-2266	-2275	-10485	-9779
1986	-4777	-5097	-5283	-7347	-3483	5974	2603	2603	-1406	-1465	-8885	-7127	-9314
1987	-8059	-5320	-3893	-4863	-3502	-4282	85	-1376	-1613	-2358	-2095	-10424	-8210
1988	-3732	-2837	-5054	-9099	-2394	-2329	-364	-1263	-1452	-2768	-2647	-5906	-2874
1989	-1541	-4082	-2767	-4146	-1359	-7385	-386	-1324	-1480	-2593	-2335	-10575	-8653
1990	-6345	-4942	-3091	-6513	-2861	-2331	-265	-1057	-1559	-2806	-2753	-3838	-4524
1991	-3128	-3263	-2070	-2419	417	-4997	-50	-1177	-1265	-2314	-2388	-2506	-3259
Avg	-5628	-5130	-3438	-3278	-937	-899	1667	382	-393	-2205	-4004	-7226	-7227

Old R. @ Bacon Is.

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	-6733	-4742	-2746	-2888	-2080	-1860	-180	-1096	-1255	-1747	-1567	-5058	-4213
1977	-2694	-2610	-1290	-1649	-675	-841	-152	-735	-1071	-1472	-879	-803	-1880
1978	-147	-1134	-2169	-5257	-4213	978	2993	2998	1900	-1301	-3786	-3002	-5907
1979	-5259	-3900	-2103	-3333	-507	-1078	894	-893	-1082	-2082	-3933	-6278	-5622
1980	-4610	-4577	-4010	1412	3727	1987	956	-835	-947	-1329	-4032	-3042	-5966
1981	-5144	-3577	-2871	-2744	-2116	-2441	192	-1307	-1518	-1497	-1338	-6556	-5880
1982	-3418	-6840	-5698	-991	838	97	5452	5454	2986	-2042	-5941	-4899	-5540
1983	-4201	-2696	1982	5307	7812	8208	4255	4256	3838	1457	-707	-4424	-1655
1984	-1676	2050	3548	2191	149	-1476	737	-1004	-1064	-1898	-3411	-6398	-6077
1985	-5045	-6723	-3740	-1940	-1777	-1761	259	-953	-1041	-1559	-1520	-6545	-6106
1986	-2997	-3169	-3231	-4412	-1823	4046	1576	1576	-948	-893	-5594	-4471	-5809
1987	-5034	-3314	-2392	-2998	-2168	-2703	-70	-976	-1164	-1625	-1400	-6506	-5135
1988	-2353	-1765	-3098	-5637	-1508	-1473	-333	-890	-1030	-1896	-1771	-3729	-1834
1989	-998	-2542	-1688	-2554	-820	-4615	-358	-939	-1060	-1777	-1563	-6582	-5407
1990	-3977	-3082	-1888	-4015	-1786	-1479	-206	-697	-1125	-1915	-1825	-2449	-2870
1991	-1987	-2037	-1262	-1496	-220	-3106	-110	-809	-878	-1558	-1563	-1614	-2063
Avg	-3517	-3166	-2041	-1938	-448	-469	994	196	-341	-1446	-2552	-4522	-4498

Department of Water Resources, Delta Modeling Section

Table 3
Monthly Average Flow
(Values in cubic feet per second)

ALTERNATIVE DEFT2

Old R. near Franks Tract

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Apr	May	Jun	Jul	Aug	Sep
							1-15	16-30					
1976	-5884	-4786	-3811	-3826	-3639	-3536	-2645	-3249	-3294	-3122	-3702	-5366	-4868
1977	-4002	-3756	-3052	-3185	-2816	-2801	-2694	-3076	-3042	-3112	-3182	-2979	-3537
1978	-2691	-3017	-3754	-5971	-5838	-4143	-3401	-3399	-2942	-3543	-5158	-4435	-5809
1979	-5207	-4387	-3536	-4587	-4451	-4353	-3076	-4254	-4123	-3499	-5146	-6146	-5732
1980	-4663	-4729	-4593	-5258	-5144	-3726	-3103	-4283	-4312	-3698	-5373	-4482	-5934
1981	-5232	-4233	-3899	-4022	-3983	-4227	-3085	-4072	-3887	-3005	-3575	-6249	-5796
1982	-4141	-5933	-6403	-5428	-6221	-6017	-6201	-6201	-3814	-4479	-6396	-5599	-6301
1983	-5084	-5192	-5744	-5181	-6487	-7436	-4617	-4616	-4737	-6232	-4520	-5745	-4346
1984	-4789	-5096	-6274	-4313	-4300	-4289	-3072	-4216	-4120	-3451	-4982	-6278	-5969
1985	-4848	-5908	-4404	-3621	-3724	-3574	-2868	-3665	-3530	-3075	-3680	-6242	-5884
1986	-3974	-4039	-4155	-5058	-9669	-5567	-3189	-3189	-4411	-3554	-6108	-5365	-5789
1987	-5017	-4104	-3654	-3927	-3802	-4081	-2736	-3332	-3320	-3078	-3597	-6220	-5411
1988	-3617	-3361	-4010	-5019	-3278	-3273	-2694	-3057	-3109	-3223	-3749	-4724	-3551
1989	-3056	-3621	-3219	-3647	-2976	-5059	-3172	-3556	-3215	-3187	-3713	-6281	-5483
1990	-4283	-3884	-3357	-4387	-3479	-3311	-2827	-3147	-3083	-3234	-3786	-4006	-4134
1991	-3468	-3377	-2974	-3058	-2869	-4353	-2930	-3388	-3126	-3133	-01	-3503	-3721
Avg	-4372	-4339	-4177	-4405	-4542	-4359	-3269	-3794	-3629	-3539	-4398	-5226	-5142

Mid R. @ Undine Rd.

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Apr	May	Jun	Jul	Aug	Sep
							1-15	16-30					
1976	-262	-49	41	35	69	47	-141	-197	-167	-188	-196	-161	-210
1977	-249	-19	48	43	49	44	-242	-261	-201	-148	-276	-247	-213
1978	-258	4	22	48	224	453	99	99	62	513	269	-209	243
1979	-254	-38	27	103	362	342	-100	-243	-198	224	-177	-165	-163
1980	-254	-50	17	505	954	621	-112	-255	-224	503	311	-215	-96
1981	-251	-34	27	37	71	79	-120	-235	-181	-175	-232	-134	-190
1982	-259	-72	4	184	631	643	1247	1247	149	712	322	236	372
1983	-81	316	851	1158	1798	2030	945	944	891	1709	1108	259	531
1984	-265	605	978	660	402	185	-86	-227	-203	-119	-177	-146	-144
1985	-261	-69	21	45	50	47	-147	-235	-205	-177	-232	-136	-188
1986	-252	-36	21	0	683	1161	-43	-43	-222	611	-148	-180	-137
1987	-249	-30	38	25	48	48	-161	-222	-185	-192	-238	-139	-198
1988	-248	1	5	-8	45	29	-214	-242	-207	-138	-202	-201	-205
1989	-249	-17	32	17	27	6	-215	-237	-206	-133	-248	-184	-204
1990	-256	-32	25	12	51	34	-241	-262	-188	-135	-208	-203	-235
1991	-249	-11	37	29	32	45	-205	-246	-226	-162	-221	-246	-229
Avg	-243	29	137	181	343	363	16	-38	-94	168	-34	-129	-79

Department of Water Resources, Delta Modeling Section

Table 3
Monthly Average Flow
(Values in cubic feet per second)

ALTERNATIVE DEFT2

Mid R. @ Tracy Rd

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr		May	Jun	Jul	Aug	Sep
							1-15	16-30					
1976	-319	-111	-11	-34	-59	-16	-319	-375	-402	-384	-281	-215	-271
1977	-304	-79	18	-6	-43	-58	-289	-309	-367	-320	-389	-317	-278
1978	-312	-49	30	53	239	436	9	9	-90	341	146	-277	175
1979	-310	-100	9	92	346	299	-204	-347	-385	44	-295	-241	-214
1980	-309	-101	25	525	913	582	-198	-340	-366	339	197	-282	-159
1981	-308	-95	15	-1	51	35	-235	-348	-393	-372	-353	-209	-243
1982	-310	-113	22	172	660	624	1142	1142	13	544	207	186	318
1983	-114	281	901	1178	1857	2011	868	868	733	1524	981	194	472
1984	-311	582	963	644	343	114	-224	-365	-384	-314	-304	-236	-199
1985	-312	-118	9	12	21	-10	-259	-346	-370	-361	-349	-205	-243
1986	-303	-81	13	32	694	1122	-132	-132	-369	438	-264	-242	-206
1987	-309	-91	0	2	6	-29	-291	-352	-386	-375	-344	-213	-256
1988	-305	-52	-2	-51	-53	-7	-301	-329	-363	-342	-337	-284	-269
1989	-304	-74	7	-5	7	-51	-326	-348	-365	-332	-368	-230	-255
1990	-306	-87	3	-11	-17	-25	-290	-310	-381	-337	-338	-287	-310
1991	-309	-73	-12	-26	20	-5	-289	-330	-341	-307	-315	-311	-280
Avg	-297	-22	124	160	311	314	-84	-138	-263	-13	-150	-198	-138

Mid R. @ Victoria Is

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr		May	Jun	Jul	Aug	Sep
							1-15	16-30					
1976	-4036	-2894	-1734	-1821	-1365	-1223	-356	-922	-1044	-1313	-1186	-3050	-2678
1977	-1842	-1696	-882	-1100	-527	-627	-329	-677	-910	-1138	-763	-713	-1362
1978	-333	-808	-1402	-3078	-2435	617	1591	1594	915	-808	-2289	-2011	-3391
1979	-3249	-2434	-1358	-2020	-300	-650	311	-811	-948	-1382	-2540	-3752	-3389
1980	-2896	-2803	-2413	894	2456	1280	348	-777	-864	-827	-2402	-2036	-3539
1981	-3190	-2252	-1798	-1731	-1337	-1527	-111	-1049	-1201	-1159	-1060	-3890	-3538
1982	-2250	-3988	-3343	-650	611	150	3628	3629	1571	-1140	-3405	-2876	-3137
1983	-2544	-1605	1356	3500	5390	5775	2784	2784	2463	1270	-164	-2634	-957
1984	-1297	1301	2368	1411	79	-954	210	-885	-937	-1390	-2254	-3816	-3619
1985	-3125	-3929	-2278	-1251	-1159	-1157	-72	-830	-903	-1195	-1170	-3882	-3656
1986	-2003	-2013	-1998	-2633	-935	2726	732	732	-873	-525	-3384	-2811	-3481
1987	-3125	-2102	-1529	-1868	-1393	-1696	-274	-836	-978	-1241	-1097	-3866	-3160
1988	-1640	-1188	-1926	-3296	-1031	-984	-433	-769	-882	-1384	-1301	-2426	-1326
1989	-850	-1647	-1117	-1618	-595	-2771	-460	-810	-900	-1327	-1201	-3920	-3298
1990	-2550	-1969	-1234	-2420	-1178	-1000	-368	-661	-940	-1407	-1356	-1691	-1944
1991	-1432	-1355	-877	-1016	-232	-1942	-307	-736	-786	-1184	-1194	-1215	-1470
Avg	-2273	-1961	-1260	-1168	-247	-249	430	-64	-451	-1009	-1673	-2787	-2747

Department of Water Resources, Delta Modeling Section

Table 3
Monthly Average Flow
(Values in cubic feet per second)

ALTERNATIVE DEFT2

Mid R. @ Bacon Is

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	-7233	-5140	-3058	-3206	-2384	-2179	-459	-1459	-1651	-2207	-2027	-5568	-4745	
1977	-3118	-2970	-1556	-1926	-907	-1096	-408	-1036	-1423	-1904	-1278	-1170	-2332	
1978	-411	-1400	-2447	-5631	-4591	800	2789	2794	1652	-1731	-4303	-3540	-6432	
1979	-5732	-4291	-2394	-3659	-754	-1350	661	-1296	-1531	-2564	-4496	-6852	-6147	
1980	-5050	-4970	-4336	1267	3661	1857	729	-1234	-1392	-1768	-4553	-3583	-6500	
1981	-5633	-3960	-3189	-3056	-2391	-2744	-66	-1706	-1962	-1949	-1787	-7134	-6410	
1982	-3852	-7262	-6068	-1269	626	-177	5458	5460	2726	-2481	-6514	-5437	-6061	
1983	-4653	-3046	1825	5349	8008	8390	4223	4222	3731	1039	-1079	-4973	-2070	
1984	-2159	1887	3452	2048	-80	-1775	487	-1420	-1504	-2383	-3963	-6982	-6612	
1985	-5485	-7144	-4072	-2208	-2045	-2043	21	-1309	-1434	-2015	-1983	-7123	-6641	
1986	-3402	-3533	-3548	-4717	-2237	3973	1360	1360	-1414	-1299	-6164	-5029	-6339	
1987	-5499	-3689	-2692	-3311	-2459	-3013	-316	-1309	-1547	-2085	-1852	-7081	-5664	
1988	-2737	-2067	-3416	-5980	-1778	-1734	-583	-1186	-1372	-2354	-2230	-4285	-2273	
1989	-1314	-2876	-1958	-2853	-1034	-4972	-626	-1254	-1405	-2241	-2029	-7155	-5931	
1990	-4404	-3446	-2169	-4338	-2060	-1773	-462	-991	-1473	-2378	-2306	-2911	-3377	
1991	-2365	-2357	-1524	-1759	-410	-3462	-372	-1133	-1212	-1989	-2019	-2045	-2524	
Avg	-3940	-3516	-2322	-2203	-677	-706	777	-93	-700	-1894	-3036	-5054	-5004	

Mid R. @ Mandeville Is.

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Apr 1-15	Apr 16-30	May	Jun	Jul	Aug	Sep
1976	-4965	-4063	-3051	-3166	-2677	-2584	-1569	-1814	-1999	-2626	-2228	-4303	-3831	
1977	-2731	-2756	-2168	-2414	-1857	-2011	-1503	-1641	-1985	-2399	-1916	-1791	-2406	
1978	-1416	-1977	-2582	-4348	-3473	-129	1323	1326	273	-1866	-3543	-3092	-4783	
1979	-4077	-3551	-2636	-3212	-1151	-1571	-526	-1057	-1274	-2747	-3692	-5082	-4634	
1980	-3993	-3976	-3740	434	2308	654	-483	-1017	-1123	-1855	-3611	-3109	-4793	
1981	-3927	-3359	-3093	-3035	-2603	-2824	-1072	-1514	-1760	-2453	-2158	-5226	-4816	
1982	-3289	-5292	-4599	-1572	343	-245	3996	3997	1389	-2065	-4736	-4168	-4356	
1983	-3427	-2488	1354	3820	6555	7243	2632	2632	2242	1893	-811	-3857	-1911	
1984	-1424	911	2474	961	-707	-2022	-651	-1168	-1344	-2615	-3377	-5152	-4891	
1985	-4214	-5207	-3635	-2562	-2419	-2462	-1117	-1464	-1600	-2472	-2261	-5213	-4957	
1986	-3055	-3132	-3303	-3844	-1028	2805	62	62	-975	-1479	-4672	-3969	-4745	
1987	-4048	-3210	-2829	-3196	-2682	-3060	-1423	-1666	-1892	-2545	-2184	-5194	-4379	
1988	-2704	-2325	-3233	-4831	-2342	-2308	-1629	-1758	-1921	-2692	-2419	-3572	-2353	
1989	-1906	-2831	-2416	-2946	-1849	-4210	-1632	-1772	-1978	-2620	-2312	-5237	-4544	
1990	-3685	-3146	-2534	-3818	-2501	-2350	-1523	-1634	-2074	-2704	-2476	-2798	-3038	
1991	-2523	-2533	-2182	-2330	-1494	-3290	-1461	-1637	-1805	-2410	-2265	-2276	-2504	
Avg	-3211	-3058	-2386	-2254	-1098	-1148	-411	-633	-1114	-2103	-2791	-4003	-3934	

Department of Water Resources, Delta Modeling Section

Table 3
Monthly Average Flow
(Values in cubic feet per second)

ALTERNATIVE DEFT2

GLC @ Tracy Rd

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr		May	Jun	Jul	Aug	Sep
							1-15	16-30					
1976	766	-68	1192	998	1019	884	2432	590	461	418	1046	1101	723
1977	840	-40	1136	706	498	448	2105	905	612	887	431	947	1029
1978	983	-22	1115	2281	3792	4811	8287	8287	6312	1926	965	827	1080
1979	736	-46	1344	2344	4144	4040	4304	757	590	517	725	867	967
1980	761	-52	1416	5243	8497	6154	4366	812	705	1895	1198	795	1210
1981	727	-53	1159	1567	1530	1692	3658	688	497	499	563	1097	825
1982	830	-52	1372	2689	6394	6530	10200	10200	8324	2689	1339	1042	1673
1983	5518	4216	8135	9883	13661	14723	8308	8300	7873	13365	3993	1094	2158
1984	954	6021	8679	6431	4381	2840	4126	677	617	769	727	911	1045
1985	822	-26	1319	994	1296	1385	3108	709	630	534	570	1105	827
1986	846	-35	1183	1484	6875	9888	5584	5586	698	2294	833	870	1018
1987	703	-51	1078	1072	1115	1068	2478	695	531	453	580	1082	771
1988	857	-84	1000	1022	623	631	1862	766	633	871	927	889	1104
1989	919	-32	811	781	816	989	1937	744	621	849	457	980	756
1990	777	-113	748	819	489	622	1875	910	553	822	797	849	627
1991	851	-70	679	598	533	1392	2213	842	773	925	887	842	996
Avg	1118	593	2023	2432	3479	3631	4178	2592	1902	1857	1002	956	1051

Victoria Canal

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr		May	Jun	Jul	Aug	Sep
							1-15	16-30					
1976	3685	2749	1706	1760	1270	1155	-44	465	497	804	862	2807	2377
1977	1507	1585	895	1073	455	526	20	349	444	705	313	362	1053
1978	-9	731	1469	3153	2701	-187	-1626	-1629	-1083	1054	2373	1700	3533
1979	2908	2300	1365	2122	643	931	-566	413	466	1327	2185	3473	3147
1980	2558	2675	2464	-328	-1560	-718	-590	392	427	1073	2543	1721	3348
1981	2851	2124	1817	1715	1388	1537	-183	641	696	677	644	3645	3266
1982	1913	3854	3412	821	94	466	-2539	-2540	-1629	1591	3554	3035	3427
1983	2421	1882	-390	-2281	-3459	-3766	-1956	-1956	-1811	150	1082	2795	1401
1984	963	-709	-1406	-765	237	1033	-507	446	456	968	1884	3535	3392
1985	2787	3786	2292	1248	1171	1120	-243	427	446	731	762	3642	3383
1986	1671	1907	2024	2723	1654	-1622	-908	-908	430	867	3060	2537	3242
1987	2783	1978	1516	1864	1380	1632	-71	430	475	747	696	3620	2875
1988	1305	1108	1935	3225	945	955	92	401	437	911	889	2104	1024
1989	517	1542	1118	1607	604	2692	86	415	444	865	768	3665	3015
1990	2219	1853	1236	2404	1132	948	64	337	466	940	947	1365	1599
1991	1090	1249	851	970	264	1912	-18	369	384	784	828	873	1161
Avg	1948	1913	1394	1332	557	538	-562	-121	96	887	1462	2555	2578

Department of Water Resources, Delta Modeling Section

Table 3
Monthly Average Flow
(Values in cubic feet per second)

ALTERNATIVE DEFT2

Turner Cut

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr		May	Jun	Jul	Aug	Sep
							1-15	16-30					
1976	-1845	-1230	-673	-696	-555	-524	-235	-629	-681	-581	-621	-1282	-1113
1977	-930	-840	-390	-452	-249	-278	-192	-447	-518	-548	-414	-408	-662
1978	-257	-455	-542	-1234	-1230	-383	-229	-228	-228	-797	-1095	-917	-1485
1979	-1552	-1077	-552	-873	-593	-681	-230	-986	-1023	-676	-1089	-1530	-1401
1980	-1215	-1187	-902	-385	-358	-319	-220	-979	-1029	-819	-1198	-926	-1511
1981	-1594	-1008	-700	-688	-573	-664	-293	-923	-962	-525	-541	-1596	-1429
1982	-983	-1642	-1263	-592	-684	-856	-476	-476	-330	-1107	-1598	-1314	-1571
1983	-1327	-1029	-660	-315	-696	-1130	-288	-288	-340	-1884	-1138	-1255	-910
1984	-1241	-404	-555	-384	-527	-646	-264	-1001	-971	-663	-994	-1566	-1503
1985	-1307	-1634	-861	-512	-503	-498	-210	-726	-746	-545	-582	-1597	-1473
1986	-881	-907	-759	-967	-1392	-516	-216	-216	-1147	-804	-1412	-1198	-1443
1987	-1436	-953	-604	-715	-575	-669	-209	-601	-655	-561	-559	-1582	-1285
1988	-726	-594	-723	-1193	-423	-416	-218	-464	-504	-631	-641	-1031	-659
1989	-435	-733	-453	-618	-272	-1031	-247	-502	-492	-611	-581	-1586	-1329
1990	-1037	-851	-492	-882	-476	-428	-201	-418	-472	-633	-643	-743	-847
1991	-637	-634	-367	-410	-152	-779	-212	-517	-474	-565	-597	-580	-701
Avg	-1088	-949	-656	-682	-579	-614	-246	-588	-661	-747	-856	-1194	-1208

Columbia Cut

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr		May	Jun	Jul	Aug	Sep
							1-15	16-30					
1976	-2641	-1505	-486	-511	-247	-178	449	-301	-328	-147	-455	-1726	-1385
1977	-929	-746	63	-38	346	316	457	-30	-70	-105	-56	-33	-505
1978	344	-19	-355	-1766	-1730	-98	248	249	375	-605	-1367	-1019	-2085
1979	-2099	-1207	-267	-959	-474	-575	344	-1079	-1092	-397	-1362	-2212	-1954
1980	-1465	-1424	-1020	-379	-234	75	364	-1063	-1138	-678	-1559	-1048	-2151
1981	-2171	-1079	-567	-528	-357	-509	257	-940	-937	-74	-305	-2327	-2010
1982	-1027	-2329	-1911	-650	-1025	-1164	-575	-574	19	-1233	-2324	-1800	-2276
1983	-1752	-1283	-900	-253	-703	-1071	-31	-32	-134	-2293	-1311	-1726	-946
1984	-1542	-361	-761	-143	-326	-482	310	-1079	-991	-368	-1187	-2281	-2146
1985	-1658	-2311	-879	-189	-206	-156	415	-567	-551	-121	-383	-2329	-2089
1986	-834	-895	-705	-1281	-2670	-533	335	335	-1331	-640	-2016	-1587	-2029
1987	-1885	-973	-361	-578	-326	-488	445	-301	-330	-118	-335	-2304	-1728
1988	-543	-306	-636	-1480	4	12	432	-41	-82	-238	-465	-1227	-509
1989	2	-551	-59	-378	228	-1222	322	-162	-74	-203	-376	-2325	-1809
1990	-1135	-781	-147	-924	-106	-9	419	1	-21	-238	-470	-680	-870
1991	-378	-359	117	44	431	-709	408	-175	-52	-160	-408	-370	-597
Avg	-1232	-1008	-554	-626	-462	-424	287	-360	-421	-476	-899	-1562	-1568

Figure 2-3
Output Locations for Monthly Average Electrical Conductivity

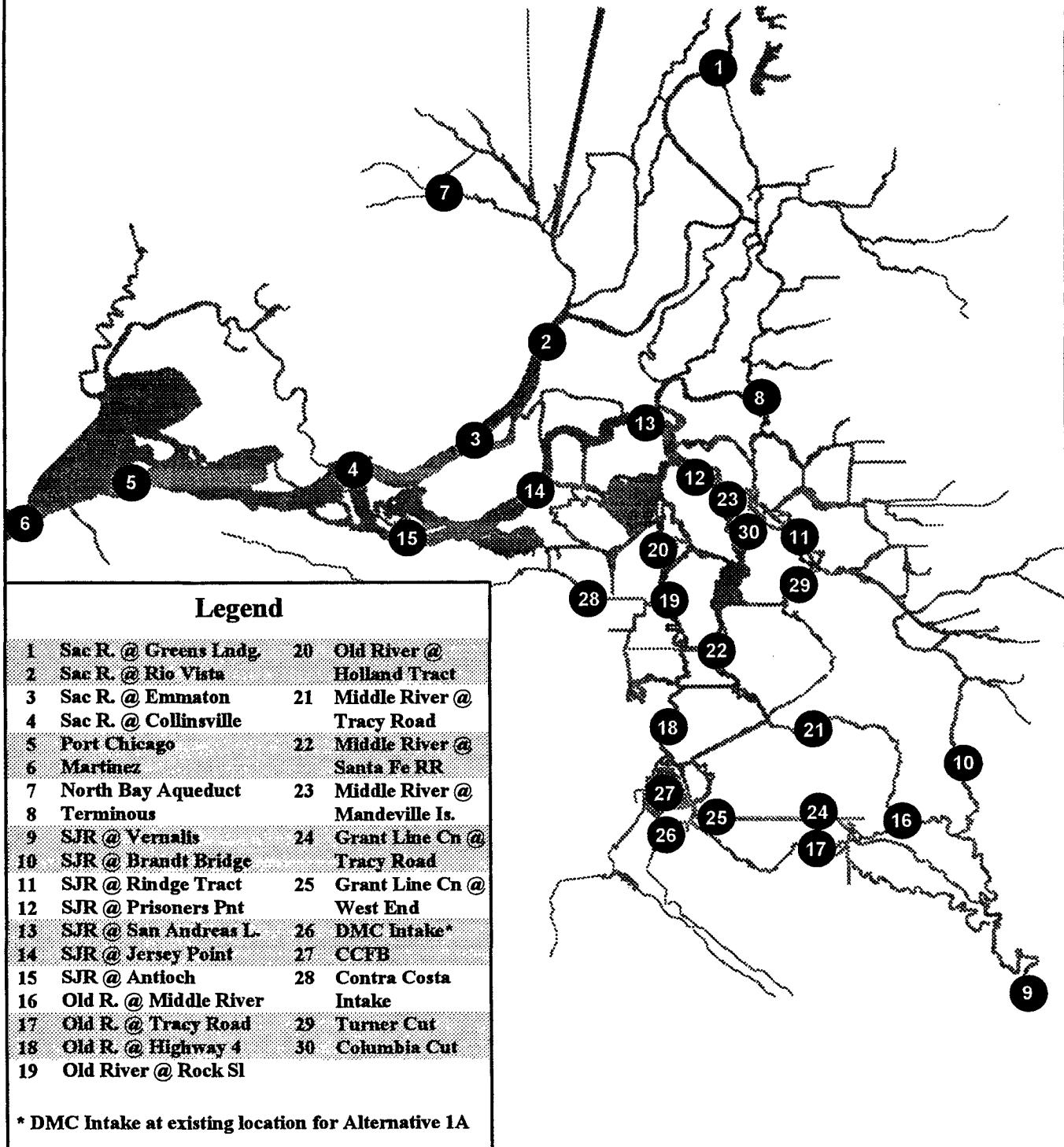


Table 2- 4
Monthly Average Electrical Conductivity

(Values in micro Siemens per centimeter)

Alternative DEFT2

Sacramento River @ Greens Landing

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	150	150	152	151	151	152	151	151	151	151	151	151
1977	150	150	154	152	152	152	151	151	151	151	151	151
1978	151	158	166	152	152	150	150	150	151	151	151	150
1979	151	150	159	154	150	150	151	151	151	151	150	150
1980	150	153	156	153	150	150	150	151	151	151	151	150
1981	150	151	155	151	151	150	151	151	151	151	150	150
1982	154	151	152	151	152	150	150	150	150	150	150	150
1983	152	151	153	153	152	150	150	150	150	150	150	150
1984	151	151	150	150	151	150	151	151	151	151	151	150
1985	154	150	151	151	151	151	151	151	151	151	150	150
1986	153	152	154	160	151	150	150	151	151	150	151	150
1987	150	150	152	152	151	151	151	151	151	151	150	150
1988	151	154	155	151	152	151	151	151	151	151	151	151
1989	151	151	153	151	153	150	150	151	151	151	150	150
1990	150	150	154	152	151	151	151	151	151	151	151	151
1991	151	151	154	152	155	150	150	151	151	151	151	151
Avg	151	151	154	152	152	150	151	151	151	151	151	150

Sacramento River @ Rio Vista

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	154	160	168	165	158	156	172	184	176	197	187	249
1977	217	259	282	244	215	223	195	203	179	207	271	336
1978	321	320	248	163	162	153	153	154	156	156	163	184
1979	194	194	202	180	157	154	154	159	155	156	164	191
1980	194	177	186	163	152	152	154	156	156	156	163	183
1981	201	206	178	159	155	153	154	162	169	183	171	200
1982	222	160	160	154	158	154	151	152	153	154	158	156
1983	159	156	163	163	160	151	151	152	151	153	154	152
1984	155	157	152	152	154	153	156	158	157	156	160	179
1985	184	154	159	160	160	157	157	163	165	178	171	203
1986	238	216	180	215	154	151	154	157	160	155	159	188
1987	202	232	188	166	156	154	159	167	171	189	172	206
1988	245	278	186	159	162	158	165	175	176	208	201	316
1989	239	239	243	176	185	154	153	158	169	183	165	210
1990	215	246	223	169	162	159	157	170	177	207	227	271
1991	217	273	337	296	196	157	154	158	164	178	204	246
Avg	210	214	203	180	165	159	159	164	165	176	181	217

Department of Water Resources, Delta Modeling Sector.

Table 2-4 (cont.)
Monthly Average Electrical Conductivity

(Values in micro Siemens per centimeter)

Alternative DEFT2

Sacramento River @ Emmaton

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	507	572	591	518	274	200	644	1148	1016	1174	1323	2357
1977	2052	2658	2799	2276	1683	1871	1359	1572	1117	1235	1962	2926
1978	2468	2237	649	175	164	159	163	171	181	214	553	1244
1979	1638	1574	992	236	165	160	169	199	209	293	634	1357
1980	1499	876	312	173	156	156	165	180	190	225	583	1240
1981	1757	1808	736	227	162	157	166	241	610	983	884	1627
1982	1821	334	165	157	163	157	153	155	161	187	421	347
1983	178	159	170	168	161	151	151	154	154	156	170	157
1984	165	163	154	155	158	157	172	202	237	271	442	1091
1985	1274	343	180	184	174	175	192	294	558	885	898	1707
1986	2051	1641	497	243	156	153	160	179	204	219	433	1288
1987	1840	2228	1228	508	216	162	242	562	830	1075	900	1635
1988	2399	2766	737	239	246	249	567	963	1027	1414	1607	2716
1989	2159	2408	2336	1000	751	184	158	253	721	999	734	1699
1990	2120	2498	1777	462	267	282	292	789	1046	1389	1902	2637
1991	2090	2820	3425	3030	882	181	165	320	634	905	1429	2131
Avg	1626	1568	1047	609	361	285	307	461	556	727	930	1635

Sacramento River @ Collinsville

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	2319	2663	2691	2520	1034	624	2454	4203	3762	3533	4769	6845
1977	6870	7944	8080	7266	5661	5956	4649	5267	3999	3611	5109	7163
1978	5801	5491	2080	214	170	169	184	188	271	645	2146	4689
1979	6340	5992	3982	589	185	172	186	304	545	1136	2788	4776
1980	5252	3078	741	200	163	164	177	203	315	713	2226	4653
1981	6610	6603	3188	607	188	164	195	639	2202	3128	3775	5570
1982	5642	834	171	163	175	166	156	162	172	491	1767	1413
1983	333	168	188	183	162	151	152	161	161	160	301	181
1984	176	178	157	161	167	164	187	248	673	990	2021	4112
1985	5406	914	277	454	335	397	473	1020	2180	2899	3838	5793
1986	5999	5217	1727	343	158	155	166	200	361	739	1830	4764
1987	6862	7354	4888	2400	610	211	839	2355	3162	3342	3716	5402
1988	7574	8025	3279	639	878	1083	2368	3806	3841	4177	5205	6727
1989	6589	7662	7466	4382	3018	367	169	919	2715	3185	3190	5675
1990	7518	7945	6199	1962	900	1255	1272	3201	3870	4107	5478	7045
1991	7028	8178	9073	8588	3241	309	252	1301	2492	2977	4306	5835
Avg	5395	4890	3387	1917	1065	719	867	1511	1920	2240	3279	5040

Department of Water Resources, Delta Modeling Section

Table 2-4 (cont.)
Monthly Average Electrical Conductivity
 (Values in micro Siemens per centimeter)

Alternative DEFT2

Port Chicago

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	14886	14918	14737	14249	10130	9406	13006	15058	15859	17153	19140	20463
1977	19498	19983	20027	19173	17319	17406	16652	16886	16059	17190	19227	20620
1978	18879	19076	14571	1945	949	504	1006	2596	6144	10402	15349	18850
1979	19647	18517	16684	7787	1946	2082	3640	6196	9205	12645	16615	19109
1980	19339	16326	10291	462	172	603	2866	4391	7258	10981	15377	18849
1981	19771	19114	15511	8541	4689	3669	4992	8370	13711	16329	18338	19897
1982	19408	8245	440	303	177	188	161	859	3393	8246	14064	13226
1983	7908	2529	220	189	177	152	151	503	419	2158	6641	4426
1984	3508	330	166	320	1526	2106	3912	5571	9690	12004	15167	18374
1985	19108	8523	6924	8389	7666	7937	8467	10650	14190	16261	18302	19975
1986	19540	18584	13255	7490	303	161	2243	4516	7547	11153	14856	18760
1987	19834	19604	17284	14248	8555	5615	9506	12901	15423	16655	18201	19715
1988	20393	20001	15478	9048	10078	11001	13650	15375	16107	17560	19291	20328
1989	19444	19895	19469	16644	15009	4890	3945	9131	14171	16339	17817	19947
1990	20421	19989	18721	13155	10384	11463	11915	14350	15867	17489	19387	20549
1991	19596	20120	20644	20068	14681	5945	6575	11163	14667	16767	18942	20067
Avg	17574	15360	12776	8876	6485	5196	6418	8657	11232	13708	16670	18322

Martinez

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	20675	20556	20332	19689	15614	15141	17857	19577	21374	23565	25377	26176
1977	24516	24910	24892	23921	22005	22121	21695	21640	21632	23518	25290	26147
1978	24532	25005	22272	5504	3034	2262	2934	5874	11255	16893	21968	24927
1979	24879	23540	22324	13629	5171	4912	7555	10906	15249	19452	23105	25287
1980	25192	22770	17800	2322	482	2212	6391	8994	13042	17552	21976	24920
1981	24976	24140	21208	14486	9776	7919	9648	13166	19411	22661	24710	25825
1982	25426	14526	2779	1526	1178	1461	676	2610	7280	13609	20481	20022
1983	14941	6598	1837	856	291	143	1594	3732	2429	5142	11604	9678
1984	7987	2359	434	1647	4316	5272	8146	10812	15612	18778	21803	24617
1985	24536	14156	12704	13993	13518	13395	13935	16002	20140	22705	24622	25784
1986	25469	24488	20205	15001	771	267	5342	9198	13165	17833	21602	24703
1987	24951	24519	22493	19852	14378	10915	14539	17731	21102	22917	24643	25773
1988	25478	24862	2'036	14890	15517	16522	18917	20270	21545	23609	25399	26097
1989	24517	24876	24271	21765	20499	9548	8300	13765	19569	22707	24628	25806
1990	25480	24821	23898	18909	16119	16955	17682	19205	21272	23626	25386	26150
1991	24536	25022	25412	24688	20034	11277	11872	16406	20552	23513	25390	26035
Avg	23006	20447	17744	13292	10169	8770	10443	13118	16539	19880	22999	24247

Department of Water Resources, Delta Modeling Section

Table 2-4 (cont.)
Monthly Average Electrical Conductivity
 (Values in micro Siemens per centimeter)

Alternative DEFT2

North Bay Aqueduct

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	179	182	198	223	233	237	217	206	197	188	188	190
1977	188	185	199	223	249	274	284	255	230	218	215	219
1978	223	219	251	348	491	506	419	259	204	191	189	191
1979	187	187	233	345	409	334	292	222	197	189	190	184
1980	179	201	285	414	574	480	315	226	197	190	189	190
1981	190	190	221	277	243	233	227	203	194	190	191	185
1982	196	226	301	456	375	477	410	259	209	191	189	187
1983	204	242	285	460	598	670	534	355	233	195	190	189
1984	192	234	332	262	240	260	218	198	191	189	192	189
1985	202	218	216	236	230	250	244	202	191	188	189	186
1986	189	205	249	325	472	546	418	281	213	195	191	190
1987	189	187	199	224	243	257	239	210	200	195	195	194
1988	189	196	237	310	352	333	288	239	217	209	210	211
1989	207	204	211	233	251	263	262	209	196	194	190	184
1990	181	184	203	246	288	304	267	223	209	203	204	206
1991	206	202	207	230	245	263	300	270	226	211	208	210
Avg	194	204	239	301	343	355	308	239	207	196	195	194

Terminous

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	161	165	188	192	191	177	192	201	182	161	158	160
1977	168	173	198	200	200	200	171	185	180	166	165	164
1978	173	180	295	191	194	162	149	164	174	161	158	158
1979	166	168	202	225	167	152	155	165	168	158	156	155
1980	164	170	246	181	148	152	154	154	162	156	154	154
1981	164	168	189	178	181	160	165	187	184	164	157	156
1982	179	190	204	156	170	146	138	146	158	153	153	152
1983	183	170	188	183	177	141	143	143	150	153	151	150
1984	172	176	147	154	152	155	161	166	169	159	156	154
1985	172	166	179	181	178	166	165	179	181	162	156	157
1986	170	172	228	331	156	143	149	155	165	156	154	156
1987	165	167	186	191	180	167	175	188	181	162	157	158
1988	169	203	229	180	188	177	178	182	182	165	160	164
1989	172	176	197	191	215	162	164	173	179	162	155	158
1990	167	172	196	198	180	173	165	179	181	163	162	160
1991	172	177	205	206	230	165	165	170	174	160	161	160
Avg	170	175	205	196	182	162	162	171	173	160	157	157

Department of Water Resources, Delta Modeling Section

Table 2-4 (cont.)
Monthly Average Electrical Conductivity

(Values in micro Siemens per centimeter)

Alternative DEFT2

SJR @ Vernalis

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	599	609	743	771	776	768	698	657	611	510	510	720
1977	762	648	745	857	967	992	945	934	714	582	878	1050
1978	996	948	916	714	454	311	246	243	309	465	588	612
1979	545	609	765	626	393	309	344	419	566	649	625	687
1980	755	776	776	498	217	208	294	348	344	422	574	636
1981	524	586	755	719	667	622	585	678	654	537	535	713
1982	840	796	804	591	314	222	189	188	252	368	473	451
1983	349	289	239	173	148	128	155	189	162	177	320	375
1984	326	273	198	191	246	331	447	536	577	635	682	699
1985	715	734	743	766	769	724	644	640	618	539	535	713
1986	842	802	800	821	511	191	229	298	306	501	680	688
1987	614	636	762	784	777	754	651	616	594	517	518	713
1988	896	896	920	934	964	979	859	792	656	540	802	976
1989	950	971	968	976	1019	950	765	679	586	543	790	958
1990	953	970	980	1012	1040	993	822	693	579	706	976	982
1991	968	982	987	1040	1132	935	658	647	606	774	1192	1294
Avg	727	720	756	717	650	589	533	535	508	529	667	767

SJR @ Brandt Bridge

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	606	596	751	774	793	771	708	655	642	515	512	679
1977	773	644	744	846	966	996	950	929	759	556	831	1048
1978	1002	949	937	738	462	313	247	244	309	459	587	612
1979	550	596	770	640	398	310	345	419	555	652	629	679
1980	756	774	809	508	218	209	293	350	346	420	565	637
1981	529	572	762	732	672	630	586	674	679	544	538	679
1982	845	796	952	613	319	223	190	189	252	365	472	453
1983	352	291	246	175	152	128	155	190	164	177	314	377
1984	326	275	199	191	246	331	446	536	578	631	683	699
1985	715	734	757	766	777	732	649	638	634	546	537	679
1986	847	802	815	877	522	192	228	299	307	476	681	687
1987	620	625	765	789	787	765	660	615	617	523	522	675
1988	897	895	941	1046	968	932	873	787	693	534	755	977
1989	951	968	980	974	1019	1042	787	680	611	536	744	957
1990	951	969	986	1049	1051	1007	838	697	606	644	958	985
1991	966	982	993	1031	1121	977	664	646	622	715	1101	1306
Avg	730	717	775	734	654	601	539	534	523	518	652	758

Department of Water Resources, Delta Modeling Section

Table 2-4 (cont.)
Monthly Average Electrical Conductivity
 (Values in micro Siemens per centimeter)

Alternative DEFT2

SJR @ Rindge Tract

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	568	475	346	281	289	271	558	646	418	325	215	256
1977	724	613	559	471	472	427	715	869	584	293	304	382
1978	852	884	634	345	490	341	257	251	311	246	200	205
1979	535	515	468	532	445	320	345	420	319	191	182	218
1980	579	645	401	568	232	213	288	355	355	292	204	202
1981	520	486	419	299	345	324	556	663	486	262	203	255
1982	646	540	292	603	371	236	196	192	256	228	189	353
1983	371	312	279	198	170	132	156	195	169	178	191	370
1984	334	303	211	198	250	316	435	537	408	207	179	205
1985	562	540	262	265	323	299	604	632	455	249	200	267
1986	657	719	421	423	564	200	224	304	319	201	175	195
1987	588	554	458	316	300	231	543	606	388	254	203	247
1988	622	793	451	284	242	258	599	744	447	285	216	358
1989	793	773	548	385	445	241	452	633	362	236	192	242
1990	573	764	564	344	294	268	608	652	381	265	232	245
1991	649	809	632	545	634	335	565	617	426	271	238	316
Avg	598	608	434	379	367	276	444	520	380	249	208	270

SJR @ Prisoners Point

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	454	410	353	290	249	196	239	338	341	269	297	504
1977	538	499	569	508	420	357	351	363	372	267	260	376
1978	463	468	428	233	217	293	262	240	226	177	172	310
1979	647	714	500	287	309	238	271	342	224	174	231	389
1980	705	689	384	448	258	207	239	306	246	175	171	287
1981	560	656	491	257	190	174	297	431	286	228	302	524
1982	686	522	224	257	327	222	201	188	202	167	171	177
1983	194	215	294	233	201	143	155	197	175	171	162	208
1984	285	299	221	199	216	199	303	412	243	175	201	339
1985	704	605	221	189	189	181	289	400	272	216	304	571
1986	715	581	413	313	352	210	197	273	254	177	175	299
1987	720	785	550	339	233	179	233	314	278	242	309	469
1988	568	555	454	321	217	192	218	300	323	295	296	381
1989	429	462	574	447	311	205	192	241	236	235	278	468
1990	891	945	655	414	258	195	219	253	319	291	281	396
1991	497	531	654	664	440	216	216	265	228	211	214	284
Avg	566	559	437	337	274	213	243	304	264	217	239	374

Department of Water Resources, Delta Modeling Section

Table 2-4 (cont.)
Monthly Average Electrical Conductivity

(Values in micro Siemens per centimeter)

Alternative DEFT2

SJR @ San Andreas Landing

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	575	492	413	332	267	195	211	303	402	321	400	723
1977	709	670	759	655	512	438	377	355	437	317	352	563
1978	581	551	467	230	196	215	213	207	203	174	184	424
1979	906	934	599	294	217	186	205	249	215	180	287	534
1980	940	842	417	288	205	181	194	228	208	172	183	392
1981	798	878	590	273	183	169	205	283	283	262	401	728
1982	912	598	218	181	231	178	171	169	180	167	185	192
1983	181	180	236	211	188	143	151	171	167	164	161	170
1984	214	228	184	176	180	173	218	278	229	179	235	457
1985	933	703	223	186	183	176	204	271	269	243	404	797
1986	958	738	474	310	205	178	174	217	215	180	191	412
1987	1006	1042	680	390	242	178	188	241	311	284	410	646
1988	781	728	538	352	220	191	199	261	383	368	397	565
1989	545	608	751	541	339	212	173	196	262	274	359	654
1990	1198	1228	816	484	271	197	189	229	389	361	380	576
1991	665	712	891	881	479	214	177	203	239	240	268	399
Avg	744	696	516	362	257	202	203	241	275	243	300	515

SJR @ Jersey Point

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	1366	1129	901	739	456	240	289	540	954	666	1290	2188
1977	1696	1721	1694	1504	1023	935	691	705	971	616	751	1335
1978	1170	1044	711	277	199	217	221	210	207	206	325	1456
1979	2504	2378	1256	416	224	197	204	241	251	271	877	1704
1980	2411	1853	692	314	227	185	195	223	217	209	327	1361
1981	2275	2307	1331	425	195	172	192	269	477	517	1318	2285
1982	2197	1120	240	193	241	197	180	173	182	201	371	392
1983	223	184	252	231	201	148	152	177	175	165	172	171
1984	204	236	195	182	186	181	207	268	269	249	628	1462
1985	2464	1344	257	204	191	187	198	270	461	465	1341	2488
1986	2247	1726	957	371	221	187	177	212	221	258	387	1422
1987	2780	2572	1576	850	359	194	193	308	691	575	1331	1975
1988	1962	1667	1224	590	271	248	272	449	94	824	1172	1393
1989	1110	1626	1763	1294	585	312	177	212	558	569	1129	2052
1990	3137	2936	1794	1071	390	262	221	386	981	810	976	1591
1991	1608	1773	1982	1952	811	265	179	227	455	463	585	982
Avg	1835	1601	1052	663	361	258	234	304	501	442	811	1516

Department of Water Resources, Delta Modeling Section

Table 2-4 (cont.)
Monthly Average Electrical Conductivity
 (Values in micro Siemens per centimeter)

Alternative DEFT2

SJR @ Antioch

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	2343	2402	2291	2090	973	502	1470	2722	3035	2418	3861	5679
1977	5303	5947	5856	5373	3935	4042	2997	3438	3172	2370	3253	4971
1978	3889	3697	1710	291	194	204	213	203	246	477	1455	3949
1979	5646	5335	3297	662	216	191	197	268	461	834	2356	4120
1980	4855	3109	888	307	229	181	189	215	274	517	1490	3871
1981	5672	5681	2952	669	206	171	192	450	1638	2081	3288	4960
1982	4954	1153	228	190	233	197	180	171	180	396	1320	1146
1983	332	182	248	236	208	151	152	175	175	165	250	182
1984	192	227	196	179	182	177	197	259	541	723	1702	3551
1985	4976	1323	287	364	287	317	333	642	1625	1921	3345	5220
1986	5170	4369	1766	406	227	188	174	207	294	603	1369	3957
1987	6143	6248	4138	2103	628	219	520	1447	2446	2245	3250	4659
1988	5918	5829	2975	734	646	779	1419	2423	3073	2958	3994	4780
1989	4442	5773	5708	3665	2078	434	177	600	2056	2183	2781	4880
1990	6744	6845	4984	1990	771	875	799	2050	3136	2896	3855	5317
1991	5368	6106	6617	6428	2393	336	219	798	1824	1956	2789	3995
Avg	4497	4014	2759	1605	838	560	589	1004	1511	1546	2522	4077

Old River @ Middle River

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	468	510	747	772	786	769	600	547	612	482	460	618
1977	586	669	747	851	966	994	740	623	705	524	575	831
1978	570	650	922	726	461	313	247	244	310	461	555	613
1979	533	610	765	636	397	310	353	428	561	620	589	642
1980	536	709	781	506	219	209	291	380	349	421	525	637
1981	487	568	758	725	670	627	527	590	655	511	502	658
1982	589	665	810	601	319	223	190	189	253	367	472	454
1983	352	291	246	176	152	128	156	190	164	177	316	377
1984	354	277	200	192	247	332	427	520	579	600	681	699
1985	525	678	745	766	773	728	581	570	617	510	499	661
1986	623	719	805	837	520	192	229	339	310	465	634	688
1987	539	679	764	786	782	758	552	520	591	491	488	643
1988	535	676	927	944	965	981	669	530	656	497	632	809
1989	559	666	972	973	1019	961	583	468	576	485	630	824
1990	638	856	980	1011	1043	1000	628	498	567	534	736	842
1991	535	662	986	1035	1124	954	536	476	574	554	376	920
Avg	527	618	759	721	653	592	457	445	505	481	542	682

Department of Water Resources, Delta Modeling Section

Table 2-4 (cont.)
Monthly Average Electrical Conductivity

(Values in micro Siemens per centimeter)

Alternative DEFT2

Old River @ Tracy Road

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	524	540	749	779	799	773	671	515	611	460	413	611
1977	664	680	754	852	969	998	831	591	636	528	429	458
1978	581	627	929	758	522	322	386	342	316	459	544	612
1979	652	682	785	657	408	314	389	438	557	611	589	641
1980	681	778	807	554	224	212	326	394	355	421	518	620
1981	595	622	770	740	678	635	575	544	658	511	388	629
1982	737	736	832	622	365	228	192	333	257	367	473	457
1983	443	302	330	213	205	131	157	193	166	179	314	380
1984	360	304	205	196	251	337	470	504	575	590	646	668
1985	674	766	758	773	781	739	648	535	616	508	379	632
1986	759	770	818	917	557	195	287	363	315	458	628	657
1987	701	777	779	796	792	765	635	488	590	490	385	617
1988	626	692	920	951	972	983	747	491	498	443	359	458
1989	566	626	956	977	1023	970	665	438	445	485	336	813
1990	839	976	991	1015	1047	1008	724	471	467	438	503	818
1991	607	637	969	1035	1118	971	620	457	469	378	316	373
Avg	626	657	772	740	669	599	520	444	471	458	451	590

Old River @ Highway 4

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	543	505	468	372	343	277	386	454	455	393	349	591
1977	706	628	730	663	614	503	548	527	536	418	340	458
1978	588	650	636	358	303	325	253	251	286	229	209	350
1979	746	843	698	414	402	332	339	374	325	212	260	464
1980	785	852	522	545	230	213	280	336	331	231	208	333
1981	666	771	668	375	269	245	432	496	453	330	348	623
1982	811	665	336	412	373	292	199	193	240	203	201	230
1983	251	278	305	208	192	135	160	198	176	191	188	247
1984	307	296	210	198	265	274	397	456	377	226	230	397
1985	778	769	299	251	259	254	484	480	423	306	347	668
1986	860	747	569	421	498	203	231	301	321	217	204	349
1987	812	936	751	458	333	238	373	419	392	343	356	564
1988	684	734	619	397	286	256	333	422	435	413	356	476
1989	572	597	741	596	483	274	277	354	331	322	319	543
1990	984	1142	914	542	372	275	343	379	400	402	347	468
1991	618	669	812	824	808	362	349	376	344	298	278	371
Avg	669	693	580	440	377	279	337	376	364	296	284	446

Department of Water Resources, Delta Modeling Section

Table 2-4 (cont.)
Monthly Average Electrical Conductivity
 (Values in micro Siemens per centimeter)

Alternative DEFT2

Old River @ Rock Slough

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	589	530	470	366	321	234	261	407	440	385	382	696
1977	752	663	786	690	611	484	476	471	506	389	339	488
1978	625	631	576	294	249	334	267	262	261	204	191	398
1979	859	951	715	365	346	290	313	348	283	196	283	540
1980	897	923	505	594	264	222	266	314	296	204	191	370
1981	755	873	695	342	219	198	292	448	386	309	395	746
1982	904	697	278	299	436	347	211	199	222	183	189	211
1983	223	240	383	239	211	141	162	205	206	184	175	221
1984	287	322	228	212	261	235	334	423	322	202	237	456
1985	897	830	268	210	212	208	306	431	363	285	397	809
1986	962	783	565	367	420	221	231	280	291	203	198	385
1987	942	1057	789	454	301	205	240	363	357	334	407	663
1988	760	769	625	404	263	223	243	367	412	415	386	520
1989	586	604	791	614	445	252	209	291	290	316	361	646
1990	1138	1266	954	558	345	235	245	318	394	409	365	526
1991	666	697	882	894	737	294	233	318	292	275	265	371
Avg	740	740	594	431	353	258	268	340	333	281	298	503

Old River @ Holland Tract

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	630	548	476	371	316	224	246	394	444	382	408	751
1977	777	688	812	708	609	483	470	457	504	379	348	515
1978	652	630	560	279	233	318	276	259	250	196	190	430
1979	932	1008	720	354	323	270	284	337	268	193	299	578
1980	967	960	502	551	292	222	250	304	280	196	190	400
1981	816	927	707	334	210	189	267	428	366	304	426	800
1982	959	721	260	278	406	307	217	198	214	178	191	211
1983	211	227	384	261	225	147	161	206	205	176	171	214
1984	279	329	240	215	237	221	294	409	302	198	246	489
1985	970	864	260	203	202	197	269	411	345	281	428	873
1986	1014	808	568	354	390	231	216	270	277	198	200	416
1987	1025	1115	803	458	293	197	225	344	352	332	438	707
1988	800	788	633	408	254	215	231	352	416	418	409	546
1989	597	625	815	625	430	246	199	271	285	316	386	694
1990	1230	1326	966	569	335	225	230	301	404	412	381	562
1991	693	724	918	926	695	276	217	297	283	272	270	386
Avg	785	768	602	431	341	248	253	327	325	277	311	536

Department of Water Resources, Delta Modeling Section

Table 2-4 (cont.)
Monthly Average Electrical Conductivity
 (Values in micro Siemens per centimeter)

Alternative DEFT2

Middle River @ Tracy Road

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	452	434	491	384	362	341	360	529	464	366	277	360
1977	579	556	693	646	568	497	486	614	569	407	318	416
1978	546	680	854	828	582	340	309	263	328	461	245	584
1979	514	571	669	700	443	331	345	406	536	240	217	308
1980	543	655	741	598	237	220	279	357	368	428	244	269
1981	475	526	667	522	589	525	416	584	534	331	262	370
1982	584	576	678	674	394	240	200	232	269	375	480	468
1983	315	323	341	220	198	134	163	205	173	184	319	389
1984	338	309	224	214	277	352	402	506	438	256	213	285
1985	531	603	479	509	548	384	429	560	492	313	259	390
1986	611	640	665	867	585	201	225	311	329	229	210	258
1987	540	636	670	553	493	311	322	503	433	323	264	350
1988	517	654	653	381	303	310	336	518	471	373	282	389
1989	541	597	703	607	583	323	263	448	389	303	239	336
1990	650	837	817	546	404	332	335	474	408	353	301	350
1991	513	623	732	698	812	547	325	462	414	316	290	379
Avg	516	576	630	559	461	337	325	436	413	329	276	369

Middle River @ Santa Fe Rail Road

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	460	428	409	333	329	301	358	529	443	356	273	362
1977	585	542	586	541	516	459	492	624	553	382	315	420
1978	562	680	637	411	378	368	265	261	294	256	235	273
1979	512	567	557	453	436	341	338	402	346	222	217	310
1980	559	649	480	626	256	221	277	353	347	264	232	272
1981	482	522	525	366	321	305	380	593	507	317	261	373
1982	600	560	349	449	505	370	207	198	248	225	216	260
1983	299	301	407	238	219	141	161	206	199	184	198	294
1984	334	336	233	218	275	283	371	509	417	246	211	288
1985	546	589	312	281	312	304	389	568	469	300	259	395
1986	615	625	501	461	552	218	227	302	324	219	207	261
1987	554	626	572	396	338	264	327	505	411	312	263	350
1988	525	643	535	335	269	277	351	529	453	359	277	397
1989	548	590	608	487	452	277	274	452	370	290	239	340
1990	675	827	707	437	345	300	354	473	393	340	298	349
1991	520	619	668	645	662	401	334	469	398	306	288	385
Avg	524	569	505	417	385	302	319	436	386	286	249	333

Department of Water Resources, Delta Modeling Section

Table 2-4 (cont.)
Monthly Average Electrical Conductivity
 (Values in micro Siemens per centimeter)

Alternative DEFT2

Middle River @ Mandeville Island

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	422	386	339	282	254	207	303	448	346	268	264	428
1977	540	486	528	473	417	355	412	483	391	272	246	325
1978	503	543	456	253	268	331	277	254	263	191	173	272
1979	551	616	477	313	373	281	313	396	249	177	214	342
1980	596	625	385	509	285	217	267	346	299	190	171	253
1981	493	564	462	263	207	190	382	565	333	232	272	456
1982	595	494	240	326	365	241	209	194	230	174	168	184
1983	237	256	327	256	223	147	157	202	178	175	167	263
1984	321	323	237	209	236	233	361	499	281	180	193	301
1985	595	564	228	199	205	195	379	527	314	219	272	495
1986	623	549	405	339	412	224	209	296	295	184	173	263
1987	605	675	512	328	242	188	301	430	294	241	278	410
1988	502	550	442	315	225	202	274	416	328	285	266	327
1989	452	458	528	422	328	212	231	333	249	232	253	406
1990	741	827	613	395	267	206	280	335	310	280	253	337
1991	454	512	597	602	481	238	279	370	256	214	205	254
Avg	514	527	424	343	299	229	290	381	289	220	223	332

Grant Line Canal @ Tracy Road

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	518	521	745	774	791	770	673	525	606	477	466	616
1977	651	655	747	849	964	995	816	601	678	524	462	607
1978	586	617	920	738	472	316	249	249	310	455	548	610
1979	610	705	771	644	402	311	365	443	553	613	590	640
1980	631	793	793	518	221	209	304	396	353	418	521	616
1981	561	642	761	731	674	631	564	549	654	506	500	638
1982	696	733	816	611	328	224	191	191	253	364	471	456
1983	360	292	261	182	163	129	156	190	164	177	311	379
1984	362	280	202	193	248	332	449	510	573	592	644	662
1985	626	783	752	769	777	732	636	543	613	504	497	642
1986	725	755	809	846	528	193	233	362	313	457	633	652
1987	643	803	774	789	787	760	623	499	584	486	485	624
1988	611	690	918	948	966	981	747	502	593	473	501	637
1989	572	597	961	975	1019	967	663	450	525	482	553	840
1990	770	1016	989	1011	1046	1006	707	484	530	470	586	828
1991	602	633	972	1032	1119	966	601	466	527	433	336	555
Avg	595	657	762	726	657	595	499	435	489	464	507	625

Department of Water Resources, Delta Modeling Section

Table 2-4 (cont.)
Monthly Average Electrical Conductivity
 (Values in micro Siemens per centimeter)

Alternative DEFT2

Grant Line Canal @ West End

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	518	483	645	612	643	597	640	495	608	484	463	594
1977	658	608	732	760	853	783	809	579	683	525	474	603
1978	586	648	838	728	479	318	250	248	310	446	546	608
1979	634	743	752	645	405	312	355	415	536	613	585	627
1980	663	786	722	522	222	209	295	374	356	414	515	621
1981	581	680	712	676	662	619	546	527	657	515	498	618
1982	720	649	697	615	330	224	192	190	252	360	469	459
1983	360	293	267	185	167	130	155	191	165	176	304	382
1984	349	281	203	194	249	331	435	488	573	588	635	657
1985	653	727	614	731	737	684	620	522	615	511	494	621
1986	749	719	721	758	531	194	231	339	315	438	625	644
1987	678	833	754	662	674	658	604	468	586	492	483	605
1988	620	705	790	737	664	662	724	475	601	482	505	637
1989	571	593	852	793	866	702	627	418	533	478	562	829
1990	818	1039	942	823	766	694	694	449	534	476	579	811
1991	597	646	879	902	1068	815	591	443	532	441	348	536
Avg	610	652	695	646	582	496	486	414	491	465	505	616

DMC Intake

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	512	483	567	502	535	488	605	481	506	427	399	520
1977	659	606	718	715	863	734	779	564	608	472	396	491
1978	602	651	767	610	474	326	251	249	318	368	305	413
1979	649	750	719	582	413	317	351	399	401	307	334	469
1980	682	790	637	566	229	218	290	359	366	355	295	419
1981	591	684	679	552	627	555	525	519	562	422	358	544
1982	729	647	547	624	374	231	207	192	261	279	297	358
1983	355	301	352	251	251	139	164	206	176	184	235	375
1984	335	315	207	195	253	338	426	477	486	328	339	450
1985	672	724	477	704	675	558	600	509	525	399	355	571
1986	761	717	651	640	556	200	231	325	328	315	320	412
1987	698	836	738	569	563	538	575	453	472	411	358	511
1988	618	707	697	546	516	508	670	458	493	428	364	504
1989	564	594	791	690	773	482	572	398	416	374	345	543
1990	845	1042	916	669	693	538	651	428	445	416	461	512
1991	585	648	839	847	1068	651	568	423	436	355	304	418
Avg	616	656	644	579	554	426	467	403	425	365	342	469

Department of Water Resources, Delta Modeling Section

Table 2-4 (cont.)
Monthly Average Electrical Conductivity

(Values in micro Siemens per centimeter)

Alternative DEFT2

Clifton Court Forebay

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	519	497	474	383	360	307	410	452	475	419	329	530
1977	675	623	698	670	635	562	591	560	559	506	430	431
1978	523	625	669	409	348	334	287	269	295	250	219	325
1979	680	791	713	456	416	339	335	374	364	228	247	424
1980	706	830	546	545	269	214	262	324	352	255	220	309
1981	613	720	679	413	315	287	416	486	511	368	327	561
1982	750	662	355	485	370	248	231	211	246	215	210	243
1983	273	294	300	235	210	161	156	198	171	182	198	260
1984	316	308	229	197	250	296	365	439	428	251	225	367
1985	699	754	328	292	299	288	437	482	476	341	324	600
1986	804	747	591	453	537	232	209	287	331	227	206	310
1987	729	889	758	483	360	265	379	422	426	365	334	515
1988	630	722	637	397	305	279	368	411	454	447	351	433
1989	541	590	713	611	512	303	298	352	362	340	301	489
1990	868	1096	937	552	398	308	374	397	407	419	341	431
1991	573	648	770	809	824	450	368	388	381	324	287	346
Avg	619	675	587	462	401	305	343	378	390	321	284	411

Contra Costa Canal Intake

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	587	549	517	439	421	298	329	445	468	411	388	696
1977	765	667	797	734	677	548	518	505	533	425	365	489
1978	611	649	753	575	395	377	344	306	299	235	210	394
1979	852	962	791	464	399	361	387	388	324	225	292	543
1980	881	958	593	908	458	285	324	349	336	234	209	369
1981	753	879	763	415	272	267	361	481	428	341	396	741
1982	909	739	651	384	594	454	318	239	256	212	205	227
1983	277	332	770	663	628	267	213	249	254	222	197	235
1984	315	425	307	277	331	319	411	457	367	234	254	455
1985	881	876	322	269	259	277	382	466	403	316	395	797
1986	971	811	638	754	564	339	286	319	332	234	215	381
1987	925	1072	842	523	372	288	315	405	389	363	406	669
1988	759	783	690	465	343	290	310	400	437	444	399	525
1989	591	607	808	670	519	324	276	335	324	345	358	641
1990	1112	1277	1010	620	425	293	285	360	419	436	383	530
1991	670	695	875	913	825	360	281	352	327	299	283	376
Avg	741	768	695	567	468	334	334	379	369	311	310	504

Department of Water Resources, Delta Modeling Section

Table 2-4 (cont.)
Monthly Average Electrical Conductivity
 (Values in micro Siemens per centimeter)

Alternative DEFT2

Turner Cut

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	610	564	537	418	497	500	696	655	532	501	335	304
1977	768	642	710	661	686	657	888	912	832	450	524	763
1978	995	963	929	679	550	343	260	253	314	360	374	350
1979	557	563	660	755	448	326	349	421	414	285	234	305
1980	723	771	602	589	237	216	292	356	357	396	361	389
1981	538	533	604	531	618	587	593	665	638	432	268	280
1982	790	781	452	698	381	237	199	194	258	326	338	457
1983	380	315	294	216	187	135	159	197	170	180	253	385
1984	335	310	215	203	254	337	443	538	543	342	242	315
1985	694	722	432	497	604	569	662	634	598	409	266	284
1986	783	814	627	657	589	204	228	305	319	240	286	317
1987	627	600	627	483	542	407	659	614	517	405	263	281
1988	796	896	643	319	318	459	818	779	661	456	316	699
1989	940	957	805	559	742	340	601	690	562	339	229	278
1990	833	947	777	439	455	513	818	718	558	397	421	426
1991	887	977	862	731	896	646	728	646	622	473	498	794
Avg	704	710	611	527	500	405	525	536	493	374	326	414

Columbia Cut

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	432	377	338	282	260	217	312	482	358	276	243	377
1977	551	498	522	468	425	364	423	525	412	286	248	312
1978	503	576	482	272	311	348	287	259	274	201	175	243
1979	509	560	475	335	387	299	318	401	268	180	202	300
1980	529	583	388	548	314	222	268	349	317	203	174	228
1981	475	517	453	273	220	204	381	590	369	240	247	391
1982	552	462	254	348	411	274	216	196	237	181	168	200
1983	273	275	372	276	235	150	158	206	186	176	172	276
1984	327	344	253	219	243	246	359	509	309	186	186	267
1985	522	510	236	207	216	207	380	551	345	227	246	422
1986	582	550	408	359	453	237	210	297	305	190	172	236
1987	550	619	503	328	252	197	306	462	312	247	251	359
1988	477	559	444	309	232	211	284	452	342	288	251	312
1989	467	476	519	418	342	221	236	366	264	236	232	352
1990	646	771	609	387	277	216	291	371	314	281	245	312
1991	441	518	586	587	509	262	288	402	279	222	206	248
Avg	489	512	428	351	318	242	295	401	306	226	214	302

Department of Water Resources, Delta Modeling Section

Figure 2-4
Distance Reference for X2 Tables
(values shown in kilometers from Golden Gate)

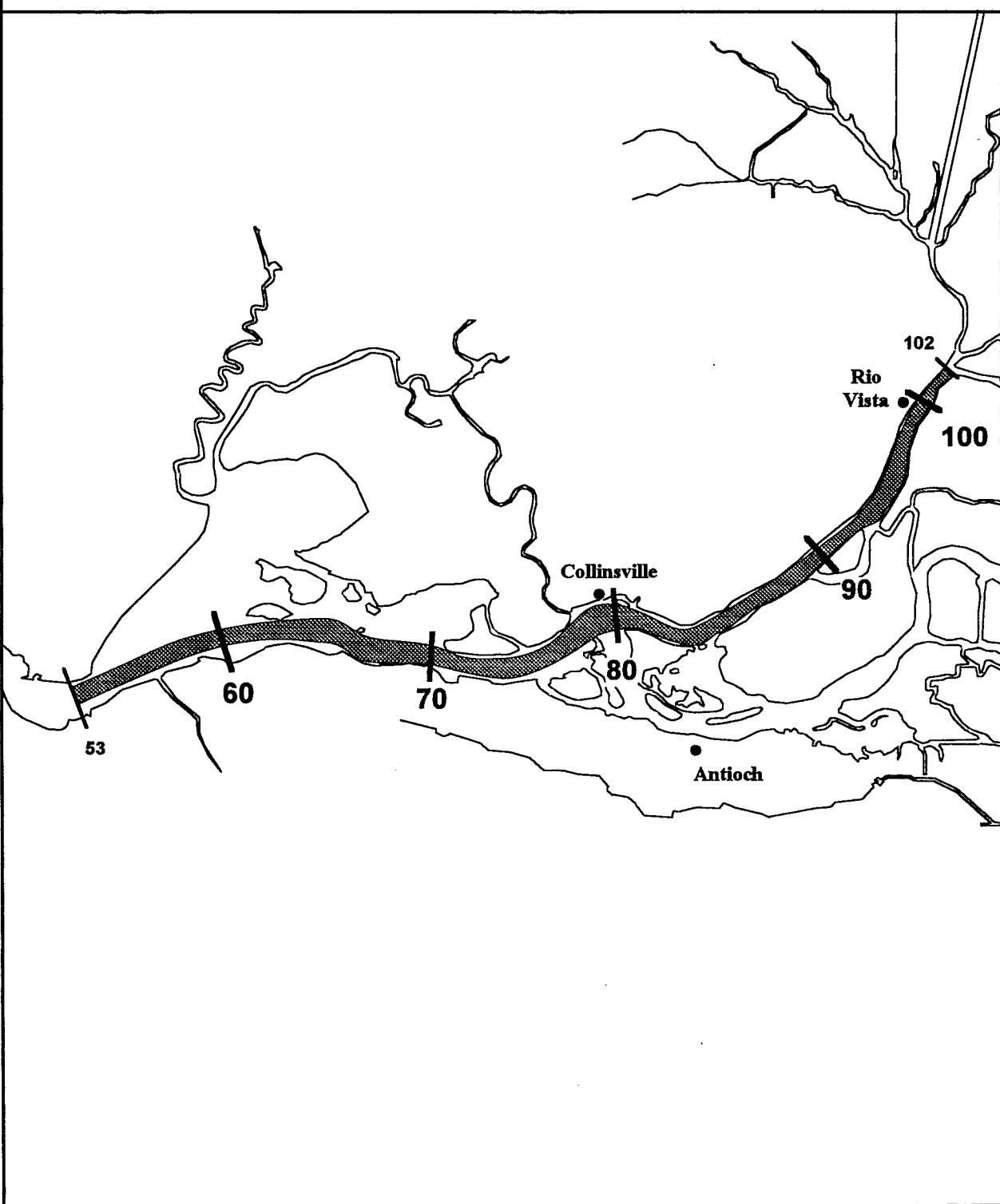


Table 2-5
Monthly Average Location of 2640 micro Siemens/cm, EC
(Values in km from Golden Gate)
(Benicia Assumed to be at 53.1 km from Golden gate)
(Hydrology from DWRSIM Study 516)

Alternative DEFT2

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1976	78.0	79.3	79.5	78.8	72.0	70.3	78.3	83.7	83.2	82.7	84.4	87.4
1977	86.8	88.1	88.5	87.3	85.7	86.2	84.2	85.2	83.3	82.7	86.0	88.9
1978	87.5	86.9	76.1	59.3	57.4	55.9	57.6	61.4	64.3	70.5	77.2	84.2
1979	85.7	85.5	82.9	66.3	60.0	60.8	62.1	64.6	69.2	73.2	79.7	84.5
1980	85.1	80.6	68.8	58.7	*	56.8	61.7	62.4	65.4	71.2	77.5	84.2
1981	86.1	86.2	80.3	67.8	62.4	62.3	62.9	69.6	77.4	81.3	82.6	85.5
1982	86.0	67.0	57.5	*	*	*	*	57.8	61.9	68.4	75.6	74.1
1983	65.0	60.8	56.8	*	*	*	56.1	57.4	56.2	60.7	65.6	62.6
1984	62.0	57.4	*	55.9	59.5	60.8	62.1	63.1	70.0	72.5	76.8	83.3
1985	84.7	68.0	64.5	68.2	65.8	67.2	68.9	72.8	77.3	80.4	82.7	85.7
1986	86.6	85.5	74.9	63.8	57.8	*	61.0	62.3	66.4	71.4	75.9	84.0
1987	86.3	87.2	84.2	78.2	68.0	63.1	71.1	77.9	81.5	82.1	82.6	85.4
1988	87.6	88.4	80.1	69.0	71.6	73.2	78.0	82.7	83.3	84.2	85.4	88.4
1989	87.0	87.6	87.5	83.5	80.6	63.9	62.2	71.2	79.5	81.5	81.4	85.6
1990	86.9	87.8	86.0	76.1	72.0	73.8	74.0	80.7	83.4	84.1	86.1	88.1
1991	86.9	88.5	89.7	88.9	79.4	64.1	64.4	73.5	78.6	80.7	84.1	84.0
Avg	83.0	80.3	**	**	**	**	**	70.4	73.8	76.7	80.2	83.5

* Values Downstream of Model Boundary - Benicia

** 16 Year Average not Reported - Contains Values Downstream of Benicia.

Department of Water Resources, Delta Modeling Section

Figure 2-5
Output Locations for Minimum Water Levels

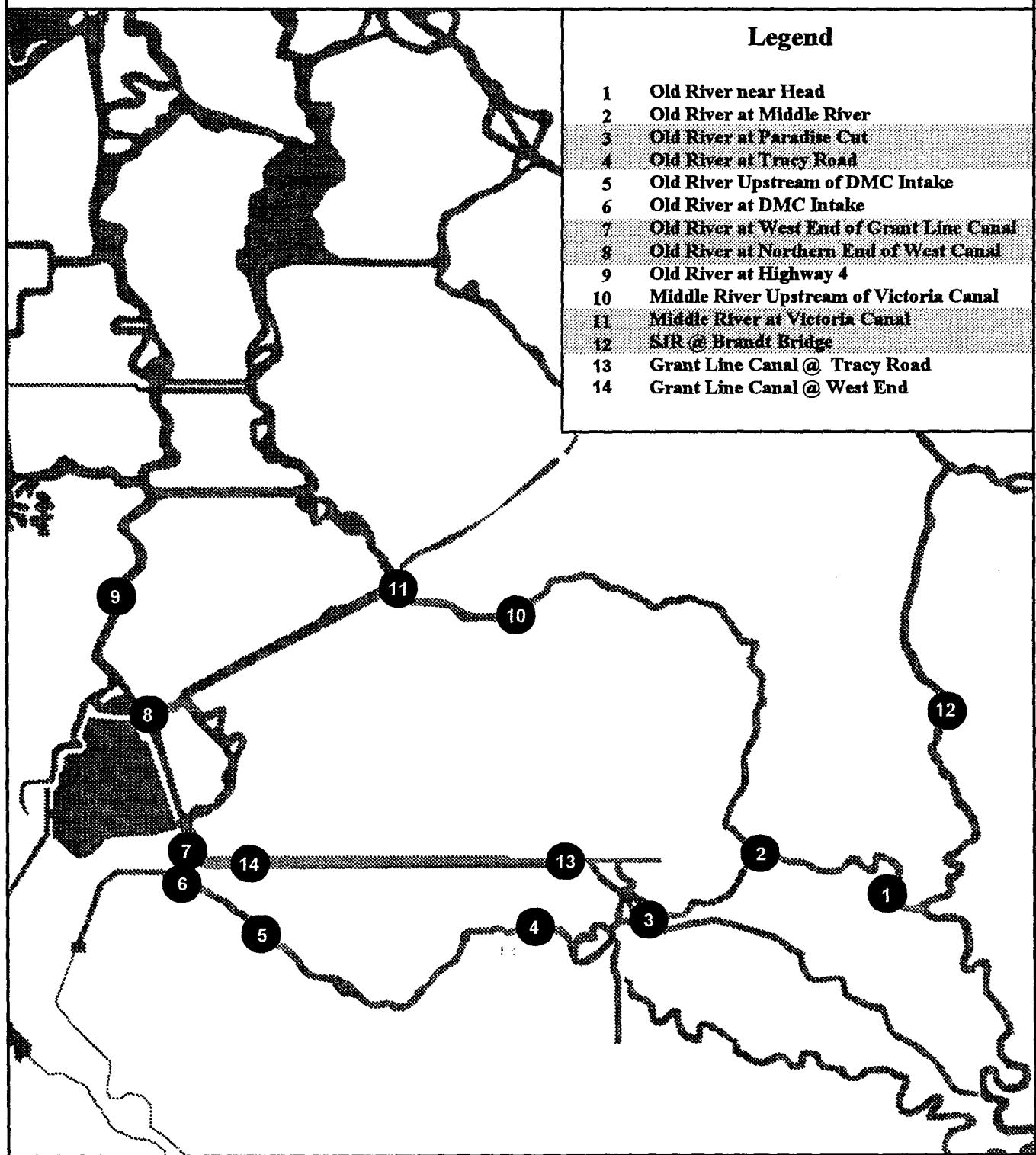


Table 2-6
Minimum Water Levels

(Values in feet above mean sea level)

Alternative DEFT2

Old River near Head

Year	Apr (1-15)	Apr (16-30)	May	Jun	Jul	Aug	Sep
1976	0.96	-0.70	-0.76	1.29	1.79	1.58	1.40
1977	0.69	-0.58	-0.71	1.65	1.30	1.66	1.72
1978	5.95	5.95	4.33	3.38	1.76	1.61	1.62
1979	2.58	-0.53	-0.63	1.39	1.45	1.37	1.52
1980	2.61	-0.50	-0.56	3.30	2.07	1.57	1.76
1981	1.99	-0.61	-0.72	1.39	1.46	1.48	1.36
1982	9.37	9.37	6.02	4.44	2.07	1.70	2.54
1983	7.48	7.48	7.09	12.00	6.58	1.84	3.64
1984	2.45	-0.57	-0.61	1.67	1.50	1.41	1.56
1985	1.51	-0.61	-0.66	1.43	1.46	1.49	1.33
1986	3.65	3.65	-0.56	3.90	1.44	1.55	1.55
1987	1.02	-0.64	-0.72	1.34	1.48	1.47	1.37
1988	0.63	-0.63	-0.69	1.55	1.59	1.50	1.77
1989	0.69	-0.57	-0.68	1.57	1.34	1.36	1.33
1990	0.61	-0.56	-0.73	1.53	1.48	1.57	1.41
1991	0.85	-0.57	-0.63	1.68	1.60	1.52	1.68
Avg	2.69	1.21	0.55	2.72	1.90	1.54	1.72

Old River @ Middle River

Year	Apr (1-15)	Apr (16-30)	May	Jun	Jul	Aug	Sep
1976	0.45	-0.66	-0.71	1.24	1.74	1.52	1.35
1977	0.33	-0.54	-0.67	1.59	1.28	1.64	1.68
1978	3.92	3.92	2.72	2.54	1.57	1.53	1.39
1979	1.56	-0.49	-0.59	1.34	1.38	1.26	1.38
1980	1.60	-0.46	-0.52	2.49	1.72	1.51	1.53
1981	1.15	-0.57	-0.68	1.33	1.41	1.42	1.26
1982	5.87	5.87	3.94	3.22	1.65	1.49	1.95
1983	4.52	4.52	4.20	7.58	4.73	1.61	2.77
1984	1.46	-0.53	-0.57	1.60	1.44	1.28	1.39
1985	0.85	-0.56	-0.62	1.37	1.42	1.43	1.24
1986	2.29	2.29	-0.51	2.88	1.32	1.47	1.39
1987	0.52	-0.60	-0.68	1.28	1.43	1.41	1.32
1988	0.27	-0.59	-0.65	1.49	1.54	1.46	1.73
1989	0.33	-0.53	-0.64	1.51	1.30	1.33	1.27
1990	0.29	-0.52	-0.68	1.47	1.45	1.54	1.36
1991	0.44	-0.53	-0.59	1.63	1.57	1.51	1.65
Avg	1.62	0.63	0.17	2.16	1.68	1.46	1.54

Department of Water Resources, Delta Modeling Section

Table2-6 (cont.)
Minimum Water Levels

(Values in feet above mean sea level)

Alternative DEFT2

Old River near Paradise Cut

Year	Apr (1-15)	Apr (16-30)	May	Jun	Jul	Aug	Sep
1976	0.11	-0.56	-0.62	1.25	1.71	1.49	1.26
1977	0.09	-0.44	-0.57	1.60	1.28	1.62	1.66
1978	2.24	2.24	1.46	2.06	1.43	1.37	1.25
1979	0.80	-0.39	-0.49	1.31	1.28	1.14	1.24
1980	0.83	-0.37	-0.42	2.04	1.52	1.35	1.32
1981	0.53	-0.48	-0.58	1.33	1.38	1.37	1.15
1982	3.08	3.08	2.24	2.49	1.40	1.33	1.60
1983	2.25	2.25	2.01	3.69	3.56	1.42	2.25
1984	0.72	-0.44	-0.48	1.46	1.33	1.15	1.23
1985	0.37	-0.47	-0.52	1.36	1.38	1.38	1.13
1986	1.24	1.24	-0.42	2.29	1.20	1.32	1.24
1987	0.17	-0.51	-0.58	1.29	1.39	1.37	1.22
1988	0.04	-0.50	-0.55	1.50	1.55	1.48	1.69
1989	0.10	-0.44	-0.55	1.52	1.31	1.31	1.18
1990	0.08	-0.43	-0.59	1.48	1.45	1.56	1.30
1991	0.16	-0.43	-0.49	1.63	1.59	1.53	1.63
Avg	0.80	0.21	-0.07	1.77	1.55	1.39	1.40

Old River @ Tracy Road

Year	Apr (1-15)	Apr (16-30)	May	Jun	Jul	Aug	Sep
1976	0.20	-0.28	-0.35	1.06	1.76	1.56	1.02
1977	0.26	-0.11	-0.28	1.58	1.12	1.66	1.73
1978	2.19	2.19	1.41	1.71	1.20	1.11	1.01
1979	0.81	-0.12	-0.22	1.10	1.02	0.93	1.02
1980	0.85	-0.08	-0.14	1.69	1.26	1.09	1.08
1981	0.57	-0.19	-0.30	1.11	1.17	1.44	0.96
1982	2.25	2.25	2.18	2.04	1.12	1.10	1.31
1983	1.57	1.57	1.35	2.50	2.93	1.17	1.91
1984	0.73	-0.17	-0.20	1.19	1.08	0.93	1.02
1985	0.44	-0.19	-0.23	1.12	1.16	1.45	0.94
1986	1.23	1.23	-0.14	1.90	1.01	1.06	1.01
1987	0.28	-0.22	-0.31	1.09	1.17	1.44	0.99
1988	0.19	-0.20	-0.26	1.47	1.54	1.48	1.76
1989	0.23	-0.15	-0.26	1.49	1.12	1.40	0.96
1990	0.26	-0.10	-0.31	1.45	1.44	1.55	1.06
1991	0.31	-0.12	-0.18	1.63	1.58	1.53	1.69
Avg	0.77	0.33	0.11	1.51	1.36	1.31	1.22

Department of Water Resources, Delta Modeling Section

Table 2-6 (cont.)
Minimum Water Levels

(Values in feet above mean sea level)

Alternative DEFT2

Old River Upstream of DMC Intake

Year	Apr (1-15)	Apr (16-30)	May	Jun	Jul	Aug	Sep
1976	0.37	0.00	-0.08	0.85	1.60	1.41	0.72
1977	0.46	0.18	0.00	1.48	0.90	1.52	1.57
1978	2.11	2.11	1.41	1.25	0.94	0.79	0.73
1979	0.89	0.17	0.05	0.89	0.74	0.66	0.71
1980	0.94	0.21	0.14	1.24	0.96	0.78	0.74
1981	0.72	0.09	-0.03	0.89	0.93	1.29	0.67
1982	1.33	1.33	2.10	1.41	0.79	0.81	0.91
1983	0.82	0.82	0.64	0.92	2.04	0.86	1.39
1984	0.82	0.11	0.07	0.93	0.80	0.66	0.71
1985	0.61	0.10	0.05	0.89	0.92	1.30	0.66
1986	1.24	1.24	0.14	1.37	0.78	0.75	0.70
1987	0.45	0.08	-0.03	0.87	0.92	1.29	0.70
1988	0.37	0.10	0.02	1.38	1.42	1.41	1.61
1989	0.42	0.13	0.02	1.41	0.89	1.25	0.68
1990	0.45	0.19	-0.03	1.39	1.41	1.47	0.78
1991	0.50	0.18	0.12	1.51	1.51	1.49	1.56
Avg	0.78	0.44	0.29	1.17	1.10	1.11	0.93

Old River @ DMC Intake

Year	Apr (1-15)	Apr (16-30)	May	Jun	Jul	Aug	Sep
1976	-0.56	-0.73	-0.75	-1.14	-1.09	-1.11	-1.29
1977	-0.54	-0.67	-0.74	-1.07	-1.11	-1.07	-1.16
1978	0.19	0.19	-0.12	-1.10	-1.13	-1.27	-1.31
1979	-0.30	-0.57	-0.64	-1.13	-1.26	-1.31	-1.30
1980	-0.28	-0.55	-0.59	-1.10	-1.15	-1.27	-1.31
1981	-0.43	-0.65	-0.73	-1.13	-1.10	-1.30	-1.31
1982	1.20	1.20	0.20	-1.12	-1.26	-1.27	-1.24
1983	0.72	0.72	0.55	0.69	-1.03	-1.23	-1.02
1984	-0.34	-0.60	-0.63	-1.13	-1.21	-1.30	-1.31
1985	-0.45	-0.65	-0.69	-1.13	-1.11	-1.30	-1.32
1986	-0.15	-0.15	-0.58	-1.09	-1.16	-1.27	1.31
1987	-0.52	-0.69	-0.73	-1.13	-1.11	-1.30	-1.30
1988	-0.57	-0.70	-0.72	-1.16	-1.16	-1.28	-1.17
1989	-0.49	-0.62	-0.71	-1.12	-1.11	-1.29	-1.31
1990	-0.53	-0.65	-0.74	-1.12	-1.10	-1.07	-1.24
1991	-0.49	-0.64	-0.69	-1.09	-1.08	-1.10	-1.17
Avg	-0.22	-0.36	-0.52	-1.00	-1.14	-1.23	-1.25

Department of Water Resources, Delta Modeling Section

Table 2-6 (cont.)
Minimum Water Levels

(Values in feet above mean sea level)

Alternative DEFT2

Old River @ West End of Grant Line Canal

Year	Apr (1-15)	Apr (16-30)	May	Jun	Jul	Aug	Sep
1976	-0.55	-0.71	-0.74	-1.09	-1.05	-1.07	-1.20
1977	-0.53	-0.66	-0.73	-1.04	-1.06	-1.04	-1.11
1978	0.20	0.20	-0.10	-1.04	-1.07	-1.18	-1.22
1979	-0.29	-0.56	-0.63	-1.08	-1.17	-1.22	-1.21
1980	-0.27	-0.54	-0.58	-1.04	-1.09	-1.17	-1.21
1981	-0.41	-0.64	-0.71	-1.08	-1.06	-1.21	-1.21
1982	1.20	1.20	0.21	-1.03	-1.17	-1.18	-1.14
1983	0.72	0.72	0.55	0.70	-0.93	-1.13	-0.95
1984	-0.33	-0.59	-0.62	-1.08	-1.13	-1.21	-1.21
1985	-0.44	-0.64	-0.68	-1.08	-1.07	-1.21	-1.22
1986	-0.13	-0.13	-0.57	-1.03	-1.10	-1.18	-1.22
1987	-0.51	-0.68	-0.72	-1.09	-1.06	-1.21	-1.20
1988	-0.56	-0.69	-0.71	-1.11	-1.11	-1.19	-1.11
1989	-0.48	-0.61	-0.70	-1.08	-1.06	-1.20	-1.21
1990	-0.52	-0.64	-0.73	-1.08	-1.07	-1.04	-1.16
1991	-0.48	-0.63	-0.68	-1.05	-1.04	-1.07	-1.12
Avg	-0.21	-0.35	-0.51	-0.96	-1.08	-1.16	-1.17

Old River @ Northern End of West Canal

Year	Apr (1-15)	Apr (16-30)	May	Jun	Jul	Aug	Sep
1976	-0.57	-0.68	-0.71	-0.99	-0.97	-0.99	-1.09
1977	-0.55	-0.64	-0.70	-0.95	-0.96	-0.96	-1.02
1978	0.03	0.03	-0.22	-0.93	-0.97	-1.06	-1.11
1979	-0.35	-0.53	-0.59	-0.98	-1.06	-1.11	-1.10
1980	-0.34	-0.51	-0.55	-0.92	-0.98	-1.06	-1.10
1981	-0.45	-0.60	-0.67	-0.98	-0.95	-1.11	-1.11
1982	0.93	0.93	0.04	-0.90	-1.06	-1.07	-1.03
1983	0.52	0.52	0.37	0.42	-0.79	-1.02	-0.83
1984	-0.38	-0.56	-0.59	-0.97	-1.03	-1.11	-1.10
1985	-0.47	-0.61	-0.65	-0.98	-0.96	-1.11	-1.11
1986	-0.23	-0.23	-0.54	-0.91	-1.00	-1.07	-1.11
1987	-0.53	-0.65	-0.69	-0.98	-0.96	-1.11	-1.10
1988	-0.57	-0.66	-0.68	-1.02	-1.02	-1.08	-1.02
1989	-0.49	-0.58	-0.67	-0.99	-0.96	-1.10	-1.11
1990	-0.53	-0.62	-0.70	-0.99	-0.98	-0.95	-1.06
1991	-0.50	-0.60	-0.66	-0.97	-0.96	-0.98	-1.02
Avg	-0.28	-0.37	-0.51	-0.88	-0.98	-1.06	-1.06

Department of Water Resources, Delta Modeling Section

Table 2-6 (cont.)
Minimum Water Levels

(Values in feet above mean sea level)

Alternative DEFT2

Old River @ Highway 4

Year	Apr (1-15)	Apr (16-30)	May	Jun	Jul	Aug	Sep
1976	-0.52	-0.60	-0.62	-0.91	-0.88	-0.91	-1.01
1977	-0.50	-0.56	-0.62	-0.87	-0.88	-0.87	-0.93
1978	0.00	0.00	-0.22	-0.85	-0.90	-0.98	-1.03
1979	-0.33	-0.45	-0.52	-0.90	-0.98	-1.03	-1.02
1980	-0.31	-0.44	-0.47	-0.85	-0.91	-0.98	-1.02
1981	-0.41	-0.52	-0.59	-0.90	-0.87	-1.02	-1.03
1982	0.82	0.82	0.01	-0.83	-0.99	-0.99	-0.96
1983	0.45	0.45	0.31	0.40	-0.72	-0.95	-0.76
1984	-0.36	-0.48	-0.51	-0.90	-0.95	-1.02	-1.02
1985	-0.43	-0.53	-0.57	-0.90	-0.88	-1.02	-1.03
1986	-0.22	-0.22	-0.47	-0.83	-0.93	-0.99	-1.03
1987	-0.49	-0.57	-0.61	-0.90	-0.88	-1.02	-1.02
1988	-0.52	-0.58	-0.60	-0.93	-0.93	-0.99	-0.93
1989	-0.44	-0.51	-0.59	-0.91	-0.88	-1.01	-1.03
1990	-0.48	-0.54	-0.62	-0.91	-0.89	-0.87	-0.98
1991	-0.45	-0.53	-0.58	-0.88	-0.87	-0.89	-0.93
Avg	-0.26	-0.33	-0.45	-0.80	-0.90	-0.97	-0.98

Middle River Upstream of Victoria Canal

Year	Apr (1-15)	Apr (16-30)	May	Jun	Jul	Aug	Sep
1976	1.46	1.22	1.06	1.27	1.86	1.67	1.56
1977	1.73	1.58	1.23	1.62	1.51	1.83	1.84
1978	3.85	3.85	2.70	1.12	0.89	1.71	0.72
1979	2.11	1.50	1.24	0.86	1.48	1.41	1.58
1980	2.19	1.58	1.42	1.12	0.91	1.69	1.75
1981	1.90	1.40	1.13	1.32	1.55	1.53	1.46
1982	0.95	0.95	3.82	1.26	0.75	0.83	0.85
1983	0.48	0.48	0.32	0.53	1.75	0.88	1.28
1984	2.00	1.42	1.27	1.55	1.51	1.41	1.59
1985	1.78	1.42	1.27	1.38	1.55	1.55	1.43
1986	2.54	2.54	1.41	1.20	1.41	1.63	1.56
1987	1.63	1.35	1.13	1.31	1.59	1.53	1.50
1988	1.61	1.47	1.27	1.48	1.64	1.64	1.89
1989	1.63	1.44	1.27	1.50	1.50	1.50	1.47
1990	1.74	1.59	1.14	1.47	1.59	1.70	1.60
1991	1.70	1.52	1.38	1.68	1.75	1.77	1.84
Avg	1.83	1.58	1.44	1.29	1.45	1.52	1.50

Department of Water Resources, Delta Modeling Section

Table 2-6 (cont.)
Minimum Water Levels

(Values in feet above mean sea level)

Alternative DEFT2

Middle River @ Victoria Canal

Year	Apr (1-15)	Apr (16-30)	May	Jun	Jul	Aug	Sep
1976	-0.58	-0.66	-0.68	-0.94	-0.92	-0.94	-0.98
1977	-0.55	-0.61	-0.67	-0.91	-0.92	-0.91	-0.96
1978	-0.05	-0.05	-0.28	-0.87	-0.91	-0.96	-1.00
1979	-0.39	-0.50	-0.56	-0.92	-0.95	-0.99	-0.98
1980	-0.37	-0.49	-0.52	-0.86	-0.91	-0.96	-0.99
1981	-0.46	-0.57	-0.64	-0.94	-0.91	-1.01	-0.99
1982	0.83	0.83	-0.04	-0.81	-0.95	-0.96	-0.93
1983	0.44	0.44	0.29	0.42	-0.71	-0.92	-0.77
1984	-0.42	-0.53	-0.56	-0.92	-0.93	-0.99	-0.99
1985	-0.49	-0.58	-0.62	-0.93	-0.92	-1.01	-1.00
1986	-0.28	-0.28	-0.51	-0.85	-0.93	-0.96	-0.99
1987	-0.54	-0.62	-0.66	-0.94	-0.92	-1.01	-0.99
1988	-0.57	-0.63	-0.66	-0.96	-0.96	-0.99	-0.96
1989	-0.49	-0.55	-0.65	-0.94	-0.92	-1.00	-0.99
1990	-0.53	-0.59	-0.67	-0.94	-0.93	-0.91	-0.97
1991	-0.51	-0.58	-0.63	-0.92	-0.91	-0.93	-0.96
Avg	-0.31	-0.37	-0.50	-0.83	-0.91	-0.97	-0.97

SJR @ Brandt Bridge

Year	Apr (1-15)	Apr (16-30)	May	Jun	Jul	Aug	Sep
1976	0.22	1.31	1.27	-0.03	0.25	0.17	0.00
1977	0.11	0.89	0.77	0.17	-0.01	0.18	0.20
1978	3.66	3.66	2.41	1.27	0.22	0.10	0.12
1979	1.21	3.80	3.72	0.04	0.03	-0.02	0.05
1980	1.24	3.82	3.90	1.32	0.43	0.09	0.19
1981	0.84	2.93	2.85	0.00	0.05	0.10	-0.02
1982	7.14	7.14	4.01	2.28	0.44	0.19	0.76
1983	5.45	5.45	5.10	9.52	4.16	0.27	1.51
1984	1.23	3.76	3.39	0.15	0.06	0.00	0.07
1985	0.55	2.13	2.09	0.02	0.05	0.11	-0.04
1986	1.94	1.94	4.61	1.81	0.03	0.07	0.07
1987	0.27	1.37	1.30	-0.01	0.06	0.09	-0.01
1988	0.07	0.83	0.79	0.11	0.13	0.08	0.24
1989	0.14	0.91	0.67	0.12	0.00	0.04	-0.04
1990	0.11	0.80	0.54	0.10	0.09	0.13	0.00
1991	0.21	1.10	0.80	0.19	0.16	0.12	0.18
Avg	1.52	2.62	2.39	1.07	0.38	0.11	0.21

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Table 2-6 (cont.)
Minimum Water Levels

(Values in feet above mean sea level)

Alternative DEFT2

Grant Line Canal @ Tracy Road

Year	Apr (1-15)	Apr (16-30)	May	Jun	Jul	Aug	Sep
1976	0.00	-0.57	-0.61	1.15	1.62	1.45	1.24
1977	0.00	-0.47	-0.58	1.47	1.19	1.53	1.56
1978	1.83	1.83	1.14	2.06	1.47	1.40	1.28
1979	0.59	-0.40	-0.49	1.23	1.27	1.19	1.29
1980	0.62	-0.38	-0.43	2.04	1.55	1.38	1.35
1981	0.36	-0.48	-0.58	1.24	1.31	1.34	1.19
1982	2.70	2.70	1.83	2.45	1.43	1.37	1.61
1983	1.95	1.95	1.73	3.10	3.48	1.46	2.24
1984	0.52	-0.44	-0.48	1.47	1.32	1.19	1.27
1985	0.23	-0.48	-0.53	1.27	1.31	1.35	1.17
1986	0.97	0.97	-0.43	2.28	1.25	1.35	1.28
1987	0.06	-0.52	-0.58	1.19	1.33	1.34	1.21
1988	-0.05	-0.52	-0.56	1.38	1.43	1.35	1.62
1989	0.00	-0.45	-0.55	1.40	1.21	1.27	1.17
1990	-0.01	-0.45	-0.59	1.37	1.36	1.43	1.26
1991	0.06	-0.45	-0.51	1.50	1.47	1.42	1.53
Avg	0.61	0.12	-0.14	1.66	1.50	1.36	1.39

Grant Line Canal @ West End

Year	Apr (1-15)	Apr (16-30)	May	Jun	Jul	Aug	Sep
1976	-0.29	-0.58	-0.61	1.18	1.54	1.32	1.20
1977	-0.28	-0.52	-0.60	1.46	1.22	1.46	1.47
1978	0.85	0.85	0.39	1.91	1.40	1.30	1.20
1979	0.07	-0.43	-0.50	1.30	1.22	1.12	1.20
1980	0.10	-0.41	-0.45	1.89	1.46	1.29	1.26
1981	-0.08	-0.51	-0.59	1.28	1.36	1.20	1.13
1982	1.79	1.79	0.85	2.23	1.33	1.28	1.49
1983	1.21	1.21	1.02	1.64	3.14	1.37	2.07
1984	0.02	-0.46	-0.49	1.40	1.28	1.13	1.20
1985	-0.14	-0.51	-0.55	1.32	1.35	1.21	1.11
1986	0.31	0.31	-0.45	2.09	1.20	1.25	1.19
1987	-0.25	-0.54	-0.59	1.23	1.36	1.20	1.17
1988	-0.31	-0.55	-0.58	1.37	1.39	1.31	1.51
1989	-0.24	-0.48	-0.57	1.40	1.25	1.14	1.14
1990	-0.28	-0.50	-0.60	1.39	1.37	1.42	1.25
1991	-0.23	-0.49	-0.54	1.47	1.44	1.40	1.44
Avg	0.14	-0.11	-0.30	1.54	1.46	1.28	1.31

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